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MISCELLANEOUS:—
Hammond, Essendine-road, W.—Lady Driver of own car..... 49
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Goulstonian Lectures
ON
PARATYPHOID INFECTIONS.

Delivered before the Royal College of Physicians of London.

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LECTURE I.

MR. PRESIDENT AND GENTLEMEN,—I wish first to offer my thanks to the College for the honour done me in selecting me to give these lectures. I am anxious also to ask for your indulgence as the difficulties of preparing the lectures in war time have been very great.

INTRODUCTORY.

I have taken paratyphoid infections as my subject as it is one of very great interest in the medical history of the war and it promises to be of continued importance to this and other countries after the war has ended. At this period it might be objected that the time has not yet come for the consideration of a subject of this nature; for the observations and reports that are being made are not available for reference. The subject, therefore, is not yet ready for final consideration. This is especially true of the bacteriological investigations, but clinical observations can always be recorded and reviewed. At this juncture a clinical study of paratyphoid infections is not out of place, for a great change has come over the clinical character of these diseases, and descriptions made in the first two years of the war will differ materially from those of the third and subsequent years.

The bacteriology and serology of these diseases are complicated, and the literature on the subject is becoming extensive. I do not propose to deal with the bacteriologist's side of the subject at all fully. But in these, as in all infections, the need is illustrated for close coöperation between the wards and the laboratory; for it is essential that both the bacteriologist and the physician should be able to regard the subject from the point of view of the other. In this respect I have been fortunate in being associated with Major H. L. Tidy, R.A.M.C., for whose help and coöperation I am very grateful.

The bacteriological aspect of these diseases is necessarily of great importance, for the making of an absolute diagnosis rests with the bacteriologist. Further, he alone can say when a patient is free from infection. The clinician, on the other hand, has to make the first diagnosis; but he cannot go further than diagnose the "enteric" group;[1] it is impossible for him to diagnose typhoid fever from paratyphoid fever and the paratyphoid fevers from each other. Several points of diagnostic difference have been recorded, but they do not hold good, for though there may be a tendency for one organism of the group to produce a certain set of conditions more frequently than the others, instances of similar conditions produced by the other organisms can usually be found. It does not follow that a description of typhoid fever would be applicable to the paratyphoid fevers. The organisms of the latter diseases have apparently a wider range of infection in the human body, and in addition to the "enteric" symptoms may cause some systemic disease or group of symptoms that will mask the nature of the infection.

HISTORICAL SUMMARY.

It will be my endeavour to give a description of these infections as I have seen them and as they have been recorded by other observers. But, first, it will be convenient to give a brief historical summary of the paratyphoid organisms and how they were found to be associated with disease.

In 1896 Achard and Bensaude[2] gave an account of a case of apparent enteric fever in whose urine they found a bacillus which was not *Bacillus typhosus*. They called it paratyphoid.

In 1893 Norman Gwyn[3] described a case of enteric fever caused by an organism with which the agglutination tests for typhoid were negative all through the illness.

In 1900 Harvey Cushing[4] described an organism obtained from the pus of a costo-chondral abscess following an attack of apparent typhoid fever. This organism was not *Bacillus typhosus*.

In August, 1900, and again in 1901, Schottmüller[5] described bacilli which presented characteristics between *Bacillus typhosus* and *B. coli*, which did not give the agglutination reactions for *B. typhosus*.

In 1901 Durham,[6] in discussing agglutinin gave a classification of organisms of typhoid-like and colon-like morphology, among which the paratyphoid organisms would find places.

In 1902 Buxton,[7] in working on these and allied organisms, split the paratyphoids into two groups, α and β; α is nearer *B. typhosus*, β is nearer *paracolon*.

In 1904 Firth[8] gave a comprehensive account of paratyphoid A among British troops in India. Since then important contributions to our knowledge have been made by officers of the Royal Army Medical Corps, especially by Birt, Statham, Harvey, Grattan, and Wood, their observations being chiefly on our troops in India.

In 1912 Bainbridge[9] gave the Milroy lectures on Paratyphoid Fever and Meat Poisoning. Employing the absorption methods as described by himself, Castellani, and Boycott, he was able to put on a definite basis the differences between paratyphoids A and B and the organisms of meat poisoning, *B. suipestifer* and *B. enteritidis* of Gaertner.

INCIDENCE BEFORE AND DURING THE WAR.

Before the war occasional cases of enteric fever were seen in which the agglutination test was repeatedly negative. On making further examination with a culture of *B. paratyphosus B* a positive result was sometimes obtained. Such an occurrence is within the experience of most physicians.

Boycott[10] has calculated that each year in London 100 cases of clinically enteric fever might be expected to be paratyphoid B fever, and that in England 3 per cent. of the cases which run the clinical course of enteric fever are really paratyphoid fever. They also form a fraction of enteric cases in statistics that have been compiled in Germany and America.

In India it has been calculated that in addition to the cases of enteric fever caused by *B. paratyphosus A* a large number of the cases called "pyrexia of uncertain origin" are really paratyphoid A.

Paratyphoid fever in Europe is more frequently B than A; in India A is common and B very rare. If paratyphoid A fever has occurred in England before 1914, it must have been very rare, though it has been seen in France, in Germany, and in America.

Since the outbreak of war opportunities for the study of paratyphoid infections have increased enormously. At first paratyphoid B fever was very rife in Belgium and Northern France; later paratyphoid A infections occurred. With the Gallipoli campaign the number of paratyphoid cases was greatly increased, the paratyphoid B cases being more numerous in the early autumn and A cases in the late autumn.

The cases of paratyphoid fever which have come under my observation have been patients at the British Red Cross Hospital, Netley. At this hospital patients have been received from every front. Comparatively few were admitted with the diagnosis of enteric fever. The majority were wounded or sick men, who started their symptoms of enteric fever a few days before or after admission. Men who had been buried, or gassed, or who had trench feet or wounds of the chest seemed particularly liable to contract the infection. In all 500 cases of paratyphoid infections have been in the hospital between October, 1914, and February, 1917, and there have been opportunities for seeing the cases in all stages and through all stages. Many of these patients have been double, and even triple, infections of the enteric group. Some have been mixed infections with bacillary and amœbic dysentery. The majority of the multiple infections came from Gallipoli.

[1] The term "enteric" will be used to denote the typhoid and paratyphoid fevers. Typhoid fever will be used for infection by *B. typhosus*, and paratyphoid fever for infection by *B. paratyphosus A* and *B.*

[2] Achard et Bensaude: Bull. et Mém. Soc. Méd. des Hôp. de Paris, 1896, xiii., 3 S.

[3] N. Gwyn: Johns Hopkins Bulletin, 1898.

[4] H. Cushing: Ibid., 1900.

[5] Schottmüller: Deutsch. med. Wochenschrift, 1900; Zeits. f. Hyg. und Infektionskrankheit., Leipzig, 1901.

[6] H. E. Durham: Journal of Experimental Medicine, 1901, vol. v., No. 4.

[7] Buxton: Journal of Medical Research, 1902, vol. viii.

[8] Journal of the R.A.M.C., 1904–1910.

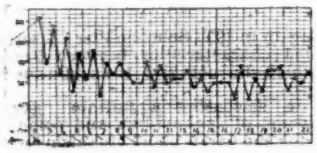
[9] THE LANCET, March, 1912.

[10] Quoted by Bainbridge, loc. cit.

CLINICAL TYPES OF PARATYPHOID INFECTIONS.

The majority of observers do not go further than to say that paratyphoid fever closely resembles mild typhoid fever, or is typhoid fever on a small scale. Firth[11] says that paratyphoid infections may be mild or as severe as in genuine typhoid. This statement is confirmed by the cases seen during the war, for all degrees of severity have been seen varying from an apyrexial type to the severest form of enteric fever. Certainly the cases of paratyphoid fever seen in the first two years of the war were more severe than the cases of typhoid fever among the inoculated. The features of the classical description of typhoid fever are very commonly seen in paratyphoid fever—i.e., headache, diarrhœa, the type of temperature, the roseola, the enlarged spleen. But these symptoms and signs may be present in a patient whose condition has a resemblance to some other disease—e.g., influenza, rheumatism, and nephritis.

CHART 1.



Mild case of paratyphoid B. Short duration. T. steady after third week. Sudden onset, shivering, headache, malaise. T. 102·2°, P. 76. Tongue clean, constipation; spleen palpable on ninth day; no spots. Stools = para. B.

As in typhoid fever, the paratyphoid organisms produce a bacillæmia, and it is therefore possible for any part or parts of the body to be infected or affected. The paratyphoid organisms have not the same limited affinity for the lymphatic tissue of the intestine as the *Bacillus typhosus* but tend to produce lesions in various parts of the body. The effects on the different anatomical structures of the body may be summarised thus:

1. Respiratory system: Rhinitis; pharyngitis; laryngitis; tracheitis and bronchitis; broncho-pneumonia and pneumonia; pleurisy, dry, serous, sero-fibrinous, purulent.
2. Alimentary system: Gastritis; enteritis, with and without ulceration of the lymphatic tissue; colitis, ditto; appendicitis; inflammation of bile-ducts, gall-bladder, and liver.
3. Urinary system: Nephritis; pyelitis and pyonephrosis; cystitis.
4. Skeletal system: Osteitis; synovitis, arthritis, and peri-arthritis; myositis (?), myalgia.
5. Vascular system: Phlebitis; arteritis; possibly endo-, myo-, and pericarditis; septicæmia.

In addition, inflammation of the middle ear, iris, conjunctiva, meninges, testicle, and epididymis have been seen.

Many of these anatomical lesions are more properly considered as complications, and for clinical purposes other forms of classification are more suitable. Dr. E. Stolkind,[12] of Moscow, speaking at the Royal Society of Medicine, gave the following classification: (1) the influenzal or respiratory form; (2) the gastro-intestinal form; (3) the choleraic form; (4) the typhoid form. This classification indicates that in Dr. Stolkind's opinion paratyphoid infections may be of a varied nature. He also said that clinically and pathologically there is no difference between paratyphoid A and B. He laid special stress on the frequency of the respiratory or influenzal type.

In collecting the particulars of the cases that came under my observation I found that there was a great variety of clinical types among the cases. The initial stages of the disease frequently resembled other diseases, but later on there would be a closer resemblance to enteric fever. It is convenient to classify them under certain headings for the purposes of description, but I wish it to be understood that the typhoid type is to be regarded as the parent type and the others as the offspring.

The headings under which I propose to classify paratyphoid infections are: (1) the typhoid; (2) the dysenteric; (3) the biliary—i.e., jaundice and cholecystitis; (4) the urinary—i.e., nephritis, cystitis, &c.; (5) the rheumatic or arthritic; (6) the respiratory—i.e., bronchitis, pneumonia, and pleurisy; (7) the influenzal; (8) the septicæmic.

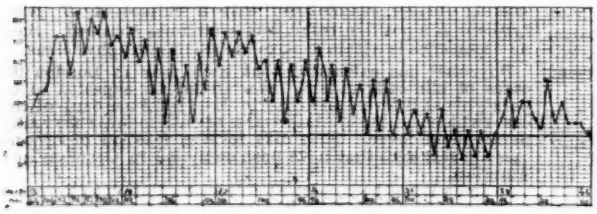
I. THE TYPHOID TYPE.

The typhoid type is the one most commonly seen and recognised, at any rate among the uninoculated.

General Description.

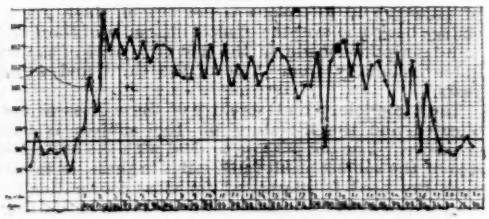
The period of *incubation* is difficult to calculate. The patient is usually unable to give any information, for the possibilities of infection on any one day are the same as on any other. Also, the patient may have been an unaffected carrier for some time, and it only required some circumstance to lower the resistance and so cause symptoms to develop. But judging from such information as was available the incubation period is from 12 to 20 days.

CHART 2 A.



Severe case of paratyphoid A, enteric type. October, 1915, jaundice followed by debility. Jan. 17th, 1916: Three days' illness; pain in stomach, headache, diarrhœa; Feb. 12th: T. rising; Feb. 17th: T. 104·4°, delirium, spleen +, spots, constipation. Agglutination + para. A. Urine = para. A. Stools = *B. coli*.

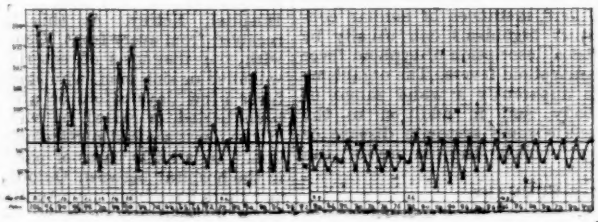
CHART 2 B.



Enteric fever, paratyphoid B. Severe case of classical typhoid type. Sharp initial rise and defervescence. Patient not inoculated. Agglutination + para. B. Copious rash, spleen +, diarrhœa, delirium. Trench feet.

The *onset* is either gradual or sudden. The gradual onset is rather more frequent than the sudden. In the gradual onset the more common symptoms are general slackness, increasing headache, loss of appetite, thirst, pains in the back and legs, dizziness, inability to keep warm, and insomnia. In the sudden onset shivering, fainting, and vomiting are of frequent occurrence. Sometimes sudden intense headache is the first symptom.

CHART 3.



Irregular type with remissions of 3° and 4°. Also period of swing, fifth week, before finally settling. On admission debility, constipation, T. rising seven days. Tongue dry, white fur, abdominal distension, spleen +, spots, delirium. Para. A in stools, agglutination negative. Inoculated (2) seven months ago.

Abdominal pain is common; it is usually moderately severe and colicky, and is not localised. *Diarrhœa* occurs in more than half the cases; it is usually of short duration and is followed by weeks of constipation. *Nose-bleeding* occurs in about one-sixth of the cases.

There is usually a noisy *cough* and a red, swollen throat; at first there is very scanty sputum. Less commonly there are deafness and blindness and photophobia.

[11] Firth: Journal of R.A.M.C., 1914, ii.
[12] Proceedings R. Soc. Medicine (Med. Sect.), Nov. 23rd, 1915.

The *aspect* of the patient is not often alarming. The cheeks and ears are flushed, the pupils moderately wide, and the skin dry. But in severe cases the patient has the same appearance as in severe cases of true typhoid, and in some cases, especially those in which the lungs are affected early, there may be profuse sweats.

The patient is drowsy and apathetic; he can be easily roused; the memory especially for the details of the onset of symptoms is poor. He is content to lie curled up in bed and only wishes to be kept warm and left undisturbed. If asked, he will probably complain only of headache or backache. The headache is most often vertical, but may be frontal or occipital.

The *tongue* varies greatly in different individuals. Generally speaking, the tongue is more frequently moist than in true typhoid. It is commonly pale, with yellowish-white fur on each side of the middle line. The edges and tip are red and moist. The impressions of the teeth are very noticeable. In other cases the tongue is dry, covered with a brown crust, and is cracked. In the severest cases the tongue is tremulous and is put out with uncontrollable shaking jerks. The condition of tongue need not bear any relation to the temperature. I have seen a dry brown tongue with a temperature of 99° F., and a moist clean one with a temperature of 104°.

Temperature and Pulse.

The *temperature* is very varied.

1. The case may be apyrexial except for an occasional evening rise to 99° or 100°. In these cases there may have been a very short febrile period before the patient came under observation. This condition is also seen after defervescence following an acute attack, especially if it has been mild.

2. The period of pyrexia may be very short. This is more often seen when the original rise is sudden but not high. (Chart 1.)

3. The temperature may be of the classical typhoid type, with the initial rise either gradual or abrupt, and remissions beginning about the tenth to fifteenth days. (Charts 2 A and 2 B.)

4. The remissions in the temperature may be very pronounced all through the pyrexial period; this type is also often associated with sweating. (Chart 3.)

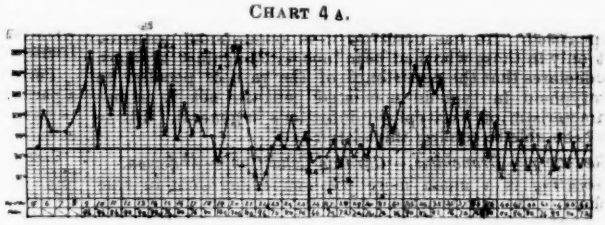
5. The pyrexial period may be prolonged by recrudescence. (Chart 4A and 4B.)

6. The temperature may be of an irregular type; it may resemble the temperature of a hectic consumptive; it may be of an inverted character, with morning rises and evening falls. Briefly, it may be of such a type that it cannot be classified. This is the largest group of all, for few of these cases resemble each other as regards pyrexia. It does not seem possible to lay down rules with regard to the temperature either with regard to rise, maintenance, or defervescence. But it frequently happens that if the temperature reaches its highest point quickly, the duration of fever is shorter than in other cases where the rise has been by gradual steps.

The *pulse* behaves in a more orderly fashion than the temperature and is of importance in diagnosis both for its own characteristics and its relationship with the temperature. The pulse is soft, easily compressed, often dicrotic and relatively slow. Slowness of the pulse with a rising temperature is the most important of the early signs of paratyphoid fever. It is even more constant and more pronounced than in typhoid fever. Thus a pulse of 76 with a temperature of 101° F., or 82 with 102°, or 90 with 103°, are seen quite frequently in favourable cases. Above 103° there is commonly a "loosing" of the pulse, and it may quicken to 120 with a temperature of 104°. It may often be noticed that if the pulse is rapid in the early days of the fever the temperature may go high, and the patient is probably in for a severe attack with pronounced nervous symptoms. The pulse, therefore, has a prognostic as well as a diagnostic value. As the temperature comes down the pulse becomes slower and slower and may go down to under 50. As convalescence proceeds it gradually comes back to normal.

Carles and Marcland[13] have made an exhaustive study of the pulse in paratyphoid fever and have come to similar conclusions. They have described the relationship between pulse and temperature graphically by curves. They describe four types:

CHART 4 A.



Case 2, H. H. Enteric fever, paratyphoid B. Remittent T., relapse of classical typhoid type. Perforation 29th day; operation. Relapse 30th–40th days.

1. The commonest or angular form; the temperature curve falls obliquely, while the pulse curve remains horizontal and at normal the two curves meet.

2 and 3. Parallelism, distant and absolute. In the former the curves approach, but do not meet, at normal; in the latter the curves remain apart.

4. The inverted angular type, only seen in very grave cases; the curves cross each other—i.e., the pulse increases in rapidity out of ratio with the temperature.

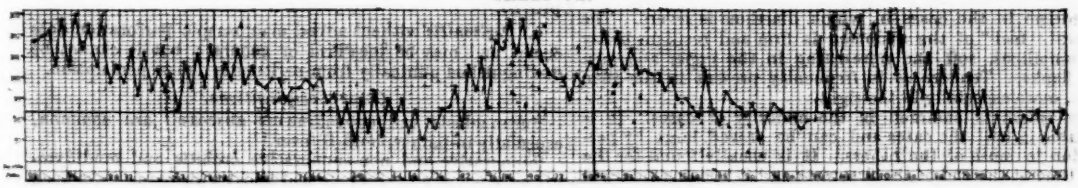
Such elaborate and artificial methods are not for everyday use, but it is demonstrated that if the pulse is slow in relation to the temperature a definite diagnostic point is gained, and if, with the symptoms pointing to enteric fever, a relatively rapid pulse is found the prognosis is serious.

The arterial tension is low. J. D. Rolleston[14] has shown that in typhoid fever the tension is low in 93 per cent., and that the lowering is in direct relation to the severity of the illness. The same is found in the paratyphoid fevers; the low tension, 90 to 100 mm. Hg, is found to persist for the first week or two of convalescence.

The Rash.

The rash appears for the first time about the end of the first week. It is of different varieties:

CHART 4 B.



Enteric fever, double paratyphoid infection. Prolonged T. with recurrent exacerbations and relapse. On admission diagnosis of hysteria, shock, and debility. Para. A and B in stools; agglutination + A and B. At first nervous symptoms pronounced, later typical enteric. Relapse (not shown) after 36 days normal T.; T. 103·6°, P. 128. Later periostitis of tibia.

1. The commonest variety is the roseola which is seen in true typhoid. The spots appear on the lower part of the chest and the abdomen. Subsequent crops are of frequent occurrence, and fresh crops may be seen in convalescence without there being any exacerbation of symptoms or a rise of temperature.

2. The second variety of rash may be regarded as characteristic of paratyphoid fever. It consists of larger spots, of irregular outline, red with a blue tinge, raised, not fading completely on pressure, and leaving a freckle-like mark of pigmentation after they have disappeared.

3. The third variety is rare. Cyanotic subcuticular patches of irregular shapes and sizes are sometimes seen in severe cases. These patches may be the only evidence of a rash, or they may be mixed with the other forms.

[13] Archives des Malad. du Cœur, Année ix., No. 3, 1916.
[14] J. D. Rolleston: Medical Press and Circular, March, 1916.

The amount of rash may vary from one or two spots to a general covering of trunk, limbs, and head. The diagnosis of measles or rubella is sometimes made in these cases of generalised eruption. In the cases of morbilliform rash that I have seen the large dusky paratyphoid spots have been very numerous.

CASE 1.—J. D., admitted from France for frost-bite. On the fifth day after admission the temperature began to rise, and in 48 hours was 104·6° F. He was very ill. There were delirium, diarrhœa, a palpable spleen, pulse of 110. On the sixth day spots began to appear, and in two days he was covered from head to foot with spots of the larger variety and also a few small pink spots. On the twenty-eighth day the temperature was normal; the spots had disappeared leaving a brown stain. No previous inoculation. Agglutination + + + to *B. paratyphosus B*

Labbé [15] says that the persistence of spots for some days after the cessation of fever is a point which has been emphasised. He has observed it in paratyphoid patients, but only in those who had been inoculated against typhoid. He declares that the persistence of the rash is peculiar to paratyphoid in typhoid-inoculated persons, but it is not characteristic of paratyphoid infections in general. I have not been able to confirm this statement.

Sweating.—Bronchitis.—Cardiac Condition.—Abdomen.

Sweating is a much more common event than in true typhoid. The skin is usually dry in all cases for the first few days, but in some cases sweating is profuse and begins early. It is so severe that sometimes the question of malaria has to be considered. When the illness begins with shivering and a rise of temperature which is followed by a profuse sweat the similarity is great. But as the temperature does not come down with the sweating the resemblance ceases to be close. The sweating at night is a great nuisance to the patient, as it necessitates frequent changes of clothing and spoils his chances of sleep.

Bronchitis occurs with great frequency during the first ten days. It is of short duration, and the cough is distinct from the initial cough which is due to the condition of the throat. Basal crepitations are also common about the eighth day, when the temperature is 103° F. or higher. In the milder cases the bases remain clear. The more serious bronchial and pulmonary conditions will be described later.

The heart.—Cardiac inflammations are rare. I have not seen a case of pericarditis nor of endocarditis, but they have been recorded. Myocarditis has been diagnosed by some observers, but this statement must be accepted with reserve. Two conditions of the heart are worthy of note.

1. A diminution of the area of cardiac dullness associated with a shortening and a lessening of the intensity of the first sound. This phenomenon is not perceptible until the fever has lasted at least a week.

2. Cardiac dilatation occurs in a few cases, but it is usually late in the course of the illness.

The abdomen.—A moderate degree of distension is almost always present. There may be distension to the degree of meteorism in the cases in which diarrhœa is severe. The general "feel" of the abdomen is firm and resilient below the umbilicus, soft and unresisting in the upper abdomen and flanks. Tenderness is frequently present in the iliac fossa, more especially in the right.

The *spleen* is enlarged in the majority of cases. It is palpable in half the cases and can be proved large by percussion in most of the others. It is usually found for the first time at the end of the first week and it remains enlarged during convalescence. Further, the spleen is very often painful. Pain in the left hypochondrium is a frequent symptom of the early days, and the pain may last a long time. It is stabbing in character and is made worse by deep inspiration and coughing. It sometimes raises the suspicion of left-sided pleurisy, for the pain is like that of an inflamed serous membrane.

The *liver* edge is occasionally lower than normal, and deep tenderness over the area of the gall-bladder is fairly common. Sometimes it is of short duration; at other times it is recurrent and accompanied by spasms of colicky pain.

The stools.—In nearly all cases there is an initial diarrhœa, the stools being of liquid fæcal matter. In a few cases the diarrhœa persists and there may be 8 or 10 actions in the 24 hours. In such cases the stools may be of the "pea-soup" variety. But most commonly diarrhœa only lasts two or three days and is followed by constipation.

Intestinal Complications.

1. *Hæmorrhage* occurs as in typhoid fever, but is not so frequent.

[15] Labbé: Med. Press and Circular, 1915.

At the highest estimate it is not more than 5 per cent. Labbé mentions it as occurring in 2 cases out of 45; Torrens and Whittington [16] report cases of severe hæmorrhage occurring in paratyphoid B; Dawson and Whittington [17] report it as a cause of death in 2 cases and with toxæmia in 3 more. I have seen it in 2 cases only, and in neither case was it severe. An occasional streak of blood or small clot is very common.

2. *Perforation* is rare, but symptoms that cause perforation to be suspected are more common.

It was found in 3 autopsies out of 17 [17]; of these, 2 were paratyphoid B and 1 was A. In another series [16] there were 3 perforations due to paratyphoid B and 1 to A. Moorhead mentions 1 case of perforation in which there was a mixed infection by paratyphoid B and *Entamœba histolytica*. Other writers [18] mention it as occurring in paratyphoid B as frequently as in typhoid fever.

Perforation occurred in two of my cases, one of which was a paratyphoid B infection, the other a mixed infection by paratyphoid A and B and *B. dysenteriæ* (Shiga). The following case is of interest:—

CASE 2.—H. H., admitted from Mediterranean, 3.1.16, for chronic septic focus on left arm; inoculated twice against typhoid, August, 1915. History: Headache for four days; abdominal pain; constipated. On admission, T. normal; rose to 100·2° F. next morning, and gradually climbed to 103°, and after swinging with remissions of 3° came to normal on Jan. 17th. (Chart 4 A.) Tongue brown and dry; spleen palpable; abdomen distended during febrile period.

Jan. 18th: 5 A.M.: Acute abdominal pain in right iliac fossa; vomiting. 7.30 A.M.: Right lower abdomen rigid and tender; little movement; tongue dirty; T. 101·4°, P. 100. 10.45 A.M.: Right side of abdomen acutely tender; T. 102·2°, P. 100. Aspect suggests peritonitis. 11.30 A.M.: More comfortable; very little tenderness; looks much better. My surgical colleague, Major C. Nitch, R.A.M.C., saw him and decided to wait. (Up to this point the course had been similar to that of another patient who had been quite well again in two days). 2 P.M.: More tender again. 4 P.M.: Further vomiting. 7 P.M.: Operation by Major Nitch. Incision below umbilicus; bile stained fluid everywhere; intestines red, rough, and covered with lymph; small perforation discovered in ileum 8 inches from ileo-cæcal valve; suture; recovery.

Jan. 28th: Typical relapse lasting 10 days. Ultimately a good recovery. Agglutination positive to *B. paratyphosus B*; organism recovered from stools.

3. *Appendicitis.*—Typical symptoms and signs of inflammation of the appendix are fairly common.

The case quoted above resembled appendicitis in many respects. But actual inflammation and ulceration of the appendix do occur for they have been found post mortem, [19] and I have seen two acutely inflamed appendices removed during the acute stage of paratyphoid B fever. Stolkind also mentions appendicitis paratyphosa. Rathery and his colleagues [20] mention appendicitis occurring in the course of, or convalescence after, paratyphoid B fever. In their experience it is a mild condition; they have not seen a case of gangrene nor perforation of the appendix. The frequence of appendicular symptoms is apparently a peculiarity of paratyphoid B. I have not seen a case of appendicitis due to paratyphoid A, but I have seen mild cases that were not proved.

4. *Peritonitis* without actual macroscopic perforation does occur, and may be localised or general; but it cannot be distinguished clinically from peritonitis due to perforation.

Other Complications.

Furunculosis and subcutaneous abscesses are common, especially in paratyphoid B fever.

Suppurative and non-suppurative orchitis and epididymitis have occurred. Splenic and hepatic abscesses have been discovered post mortem. An abscess of the brain in paratyphoid B fever has been reported by Scott and Johnston. [21] Osteitis, periostitis, and abscesses of bones, especially of the ribs and tibiæ, have occurred among my cases and are reported by others.

Arterial complications are rare. Thrombosis has been found in different arteries, most frequently in arteries of small size. Macadam [22] has described a case in which thrombosis was found extending from the left internal carotid artery, through the middle meningeal to the lenticulo-optic and lenticulo-striate branches. The infection was paratyphoid B. Phlebitis will be considered as belonging to the stage of convalescence.

Relapses occur in different percentages according to different observers.

[16] Torrens and Whittington: Brit. Med. Jour., 1915.
[17] Dawson and Whittington: Quart. Jour. Med., ix., No. 34.
[18] Les Fièvres Paratyphoïdes B, Rathery and others, 1916.
[19] Dawson and Whittington: Loc. cit.
[20] Rathery: Loc. cit.
[21] Scott and Johnston: THE LANCET, 1915, i., 852.
[22] Macadam: Journal of R.A.M.C., xxvii. (No. 4), 499.

Wiltshire[23] reports 7 in 98 cases; Labbé[24] quotes a similar proportion, 3 in 45; Robinson[25] says that relapses of brief duration are not uncommon. On the other hand, Dawson[26] says that re-infections are uncommon.

In my cases the percentage is about 8, and in quite a fair number those who relapse have more than one relapse. The relapses become milder as time goes on. In one case there was a relapse after five weeks of normal temperature; in another case there were 5 relapses, each one being milder than the previous one.

Kennedy and Russell[27] have reported a case of paratyphoid A fever with relapses on the thirty-fifth, fifty-eighth, and ninety-fifth days, during which the organism was isolated from the blood.

There were more relapses in the patients who came from Gallipoli than in those who came from France. It is possible that the greater prevalence of double infections in the former could account for the greater frequency of relapses among them.

Convalescence.

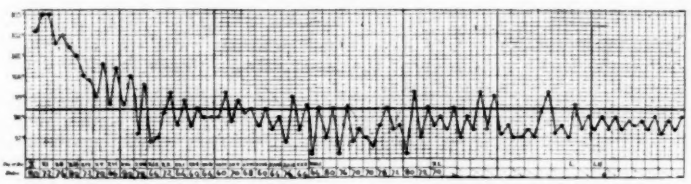
The behaviour of these patients, when the acute stage is over and they are well enough to be up and about, is very disappointing. Their progress is slow; their normal vigour does not return; they constantly say that they feel weak and good for nothing. Lassitude, morning headache, lack of appetite, inability to sleep in the early part of the night and waking up unrefreshed, are frequent complaints. This is a very different picture from the convalescence of typhoid fever.

How much these complaints are due to paratyphoid and how much to the circumstances of active service it is impossible to say. In a base hospital in this country patients remain until they are well, and their condition following the termination of an acute illness can be studied. These men are still infected and they are suffering from an infection the virulence of which is on the wane. The infection may not be capable of demonstration at each examination of excreta. But repeated examination will often reveal the presence of a paratyphoid organism. This does not mean that these patients will ultimately become chronic carriers, but they have not yet thrown off their infection. It is too early yet to say what percentage of infected men will become carriers.

Temperature.—Commonly there is an occasional evening rise to 99° or even 100° F. during convalescence, but the arresting feature of the temperature chart is the amount of "swing." A difference of 1½° and even more between the morning and evening temperature is quite common; the swing gradually lessens as time goes on. Putting the patient back to bed and allowing him only a fever diet does not affect the temperature, and in my opinion it is a mistake to do so. (Charts 5 A and 5 B.)

The *circulatory system* is also in an unsatisfactory condition. The area of cardiac dullness, which has shrunk during the febrile period, may gradually return to normal in a patient making satisfactory progress and taking exercise. But in many others it is common to find a heart that is dilated with a widely diffused impulse and a displaced apex beat. The action is rapid and the heart races on exertion or excitement. The patient complains of cardiac pain and palpitation. A few days in bed, limitation of food and tobacco, and attention to the stomach and bowels will improve the condition. In some of these patients there are tremors of fingers and copious axillary sweating. In this class of patient the heart-rate is not increased in sleep. In others the condition is more obstinate, and these patients go to form a portion of the men who are invalided for "soldier's heart," unless their hearts will respond to education by graduated exercise. Many of these conditions, "irritable heart," "D.A.H.," &c., originate from some infective disease, and the paratyphoid infections are certainly capable of producing these conditions.

CHART 5 A.



Irregular type of T. Prolonged irregular T. for four weeks after defervescence. Enteric fever, paratyphoid B. Patient inoculated for typhoid (2) January, 1915. Headache, diarrhœa, spots, dry furred tongue, spleen +. Agglutination 12th day +++ typh. and para. B. Stools = para. B.

The peripheral circulation is bad. Cold, blue hands and feet are very common. This will occur in men who have never suffered from cold extremities before. Polyuria accompanies this condition. In two cases polyuria has been so excessive that they were sent into hospital as diabetes insipidus. One patient was passing over 25 pints a day. In each case there was a history of diarrhœa of short duration, and polyuria began a few weeks later. In each case *B. paratyphosus B* was found in the stools. Vigorous exercise up to the point of sweating was found to be the best treatment for these conditions.

Phlebitis and thrombosis of veins occurred in 5 per cent. of my cases. The veins affected were either the internal saphenous vein, or the small subcutaneous branches of the internal saphenous vein on the calf, or the femoral vein. In one patient who had thrombosis of veins in both legs, phlebitis of the median basilic vein of the right arm occurred. The average incidence of thrombosis would seem to be about 4 per cent. Moorhead had 3 cases; Torrens and Whittington had 3 cases in 100 paratyphoid B and 1 in 50 paratyphoid A. Wiltshire noticed it in 4 paratyphoid B cases in a series of 97. Rathery says that phlebitis is relatively frequent. It certainly seems to be commoner than in typhoid fever.

CHART 5 B.

Prolonged period of swing in paratyphoid A, before settling. Chart shows 11th, 12th, and 13th weeks after acute illness.

[In examining the legs of men whose shins were painful I was struck by the frequency with which a hard, rigid, internal saphenous vein was found at the point where it passed in front of the internal malleolus. It felt like a tendon and could be traced a little way up the leg and felt as a cord going deep into the muscles of the calf. The internal saphenous vein over the calf was usually soft and its contents fluid; occasionally it was thrombosed. But the vein over the internal malleolus was rod-like and solid. It was found that in the enteric wards this condition was absent in only 5 per cent. of cases. In the ordinary medical wards it was absent in 70 per cent., and in surgical wards it was absent in 80 per cent. In some of the cases in which it was present in the medical wards an enteric infection had been suspected but not proved, and in one of the surgical cases *B. typhosus* was isolated from the stools. These veins were also present in some cases where there had been extensive flesh wounds of the thigh, and in two patients in whom the femoral vein had been tied. This phenomenon may turn out to be quite valueless as a diagnostic indication of a previous enteric infection, but it is possibly a sign of a deep thrombosis; its prevalence in the enteric wards is suggestive.]

Constipation in convalescence is frequently troublesome, but a regulation of diet and plenty of exercise will usually overcome it. In other cases liquid paraffin by itself or with cascara may be necessary at first.

Symptoms of *neurasthenia*, apart from the neurasthenic cardiac condition already mentioned, are only too evident during convalescence. Again, whether active service or paratyphoid fever is more to blame is a difficult question to answer. In my experience the neurasthenic state is more common in paratyphoid convalescents than in other cases. Further, the victims of shell-shock, gassing, and burying are especially liable to contract paratyphoid fever, and in their convalescence suffer severely from their nervous symptoms. Insomnia and night-terrors are particularly common among paratyphoid convalescents.

Nervous disturbances of a more definite type have been observed. Three cases of spasmodic asthma occurred in men who had never had asthma before. Severe paroxysmal headache was present in several patients. One patient, whose headache was occipital, suffered so severely that he threatened to do away with himself. Melancholia was seen in one man who had had only a mild attack of paratyphoid B. In all these cases the symptoms were transitory, and in six months' time the patients were fit.

[23] Wiltshire: Practitioner, xcvi., 91.
[24] Labbé: Loc. cit.
[25] Robinson: THE LANCET, 1915, ii., 851.
[26] Dawson: Proc. R. Soc. Med., 1915, ix., Med. Sect., p. 5.
[27] Kennedy and Russell: Brit. Med. Jour., April 29th, 1916.

TRENCH SHIN AN INFECTIOUS FIBROSITIS.

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UNDER the heading of infectious fibrositis I propose to discuss a condition with a fairly definite symptom-complex, of which the outstanding symptoms are pain and tenderness on pressure over the tibiæ and tibiales antici.

During practically the whole of the time the British Army has been in France and Flanders, also in Greece, cases of this description have been continually observed. Owing to the frequency of involvement of the shin bones, and the fact that the disease is very common amongst soldiers in the trenches, it is usually called "trench shin." Cases occur, however, in men who have never been in the trenches, indicating that this term cannot be regarded as universally applicable. I suggest that the term "infectious fibrositis" be used to designate this and kindred affections, believing as we do that these diseases are of infectious origin, and that the bacteria or their toxins, causing the morbid condition, show marked elective action for fibrous tissue. They attack the fibrous structures of periosteum, ligament, muscle, nerves, and other parts which are rendered vulnerable by cold and wet, or by any disturbance which interferes with the blood-supply to the part, such as the wearing of puttees. The evidence in favour of this view will be given later in this paper under the heading of "Etiology."

Symptoms.

In addition to the outstanding symptoms which have already been mentioned—namely, pain and tenderness in the lower limbs, many others may be present, but most of them are not constant. Fever is practically always present in the early stage of the condition, and is generally rather high when the patient first comes under observation, usually about 102° F., but sometimes as high as 103° or more. In the great majority of cases it disappears within a few days, but there may be variations in this respect, as we shall see when we come to report illustrative cases of the disease. In one of the cases recorded in this paper fever of a low grade lasted for 20 days, but such persistence is, judging from our own experience, rather exceptional. The pyrexia is invariably accompanied by a polymorphonuclear leucocytosis. The association of fever and leucocytosis with the general clinical manifestations of the disease has led us to the assumption that it is of infectious origin. An interesting feature of the blood count is the presence of leucocytosis after the fever has disappeared. In one of our own cases a leucocytosis of 15,500 was still present eight weeks after the disappearance of fever. The pulse-rate nearly always remains below 100, but varies to a certain extent according to the temperature.

Headache is the rule in the early stage of the disease, and is described by some of the patients as being "jumping" or "stabbing" in character and worse at night. The temples and forehead are the most common sites of pain, and the patients frequently state that the headache is intensified by rapid movement of the eyes or pressure on the eyeballs. It is also aggravated by coughing, and is not infrequently accompanied by dizziness. In a few of the cases reported the headache has been universal, and in one described by Hunt and McNee it was so severe that lumbar puncture was performed with the object of excluding meningitis.

As already stated, the commonest sites of pain are the shin bones and tibiales antici muscles. The pain is usually of a dull aching character, increased by movement, and relieved to a certain extent by rest. It is practically always bilateral, but a few cases have recently been reported in which the left shin only was affected. Pain in the back is also a fairly constant symptom. Indeed, it may be said that pain and tenderness on pressure may be present in any part of the surface of the body. The muscles of the arms and thighs are common locations, and in a considerable number of cases the bony prominences and ligaments about the joints, particularly the knees and ankles, are painful and tender. In a small proportion of cases the pain and tenderness may be localised in nerves. A nerve was involved in five of our cases. Of these, the ulnar was the nerve affected in three cases, the median in one, and the radial in one. The symptoms referred to the nerves are those of a neuritis.

The physical examination of the tibiæ does not elicit anything of much diagnostic value, except extreme tenderness on pressure, which has already been referred to as an outstanding symptom of the disease, and I have never been able to satisfy myself that appreciable periostitic thickening is present, and the few skiagrams of the tibiæ which I have had made do not indicate that it exists. In some cases slight redness of the skin over the internal surface can be made out.

Etiology.

There has been a good deal of discussion as to the etiology of trench shin and trench foot, but the causation still remains more or less obscure. Three causative factors—namely, constriction, infection, and exposure to wet and cold—appear to exist.

Constriction.—Amongst the various contributory factors constriction appears to be a very important one. A clinical study of the cases indicates that the frequency of localisation in the legs is favoured by the wearing of puttees. The fact that most cases occur among privates and non-commissioned officers who are in the habit of wearing puttees supports this view. The lower third of the tibia is not commonly involved, because of the protection afforded this part of the leg by the boot. Anything which tends to impede circulation of the limb, such as tightly tied boot-laces or puttees, may thus contribute to the setting up of the condition. This is recognised by the German writers, who give the disease the name "gaiter pain." In addition to obstructing venous circulation, tight bandaging of the legs by puttees tends to produce a continuous loss of heat. This is important, because cold seems to be one of the chief causative agents of the disorder.

Infection.—The view that the disease is primarily due to an infection is gaining more and more adherents, and is supported by the fact that in the Army it is met with almost exclusively in men who have been in or near the trenches. In my opinion the affection is caused by a micro-organism which has a marked elective action upon fibrous tissue. This theory affords an explanation of the occurrence of myalgia, periostitis or osteo-periostitis, rheumatism, and neuritis as symptoms of the disease. The severe headache which occurs in some cases may be due to a fibrositis localised in the meninges of the brain. Whilst the brain tissue itself is insensitive, the dura mater is richly supplied with nerves, and therefore a fibrositis localised in the meninges would give rise to pain in the head. This was first called attention to, we think, by Dr. Harry Campbell. If we accept this theory as to the cause of the headache in the affection under consideration we can readily explain all its characteristics (worse at night, aggravated by coughing, great intensity in some cases, &c.). I would suggest that the indurative headache of gout is due to a similar morbid condition, although Llewellyn Jones, who has given special attention to the study of the latter subject, thinks that it is due to myositic deposits.

Rosenow, who has recently made extensive investigations in regard to the elective affinity of certain micro-organisms for certain tissues, finds that they undergo mutation on variation of the culture media after successive inoculations into animals, but the factors which determine this localisation are still obscure. His experiments were done by intravenous injection in dogs and rabbits of streptococci isolated from appendicitis, ulceration of stomach and duodenum, cholecystitis, rheumatic fever, erythema nodosum, herpes zoster, epidemic parotitis, myositis and endocarditis. The results showed an elective affinity of these organisms for tissues similar to those from which they had been isolated, those from appendicitis producing lesions in the appendix in 68 per cent., and those from myositis in 75 per cent. of 40 animals, whilst gastric hæmorrhage resulted in a large proportion of those inoculated with cultures obtained from cases of gastric and duodenal ulcer. The gonococcus exhibits a marked affinity for fibrous tissue, Friedländer's bacillus for joints, the tetanus toxin for motor ganglion cells, the diphtheria bacillus for the faucial tonsils, the meningococcus for the meninges, the pneumococcus for the lung, the typhoid bacillus for the lymphatic tissues, the virus of rabies for the central nervous system, that of anterior poliomyelitis for the anterior horns of the spinal cord, the malaria parasite for the red blood corpuscles, and the trichina spiralis for the muscles. By the inoculation of cultures of streptococci (*Streptococcus viridans*) obtained from rheumatic lesions, he

produced typical rheumatic myositis in rabbits. It is interesting to note that in Rosenow's experiments the virulence of some of the organisms was increased by exposure to cold. The fact that the virulence of these organisms is intensified by cold explains the influence of a low temperature in favouring the onset of rheumatic affections. On killing the animals 48 hours after inoculation, many of them showed no other focal lesions than those of the organs in question, and in others the elective lesions were the only severe ones, the rest being insignificant.

Flexner is trying to determine experimentally whether the lesions in the elective tissues are due to the lodgment in them of a larger number of bacteria than in other organs, or whether the bacteria lodged in equal numbers in other organs are capable of surviving only in the elective one. So far the indications point to the former supposition as the correct one, and it appears that the cells of the elective tissue draw the bacteria from the circulation as by a magnet—that is, a process of absorption.

Exposure.—The view that exposure to cold and wet is an important factor in the etiology, together with the fact that the symptoms include, amongst others, pain in the region of joints, ligaments, and muscles, suggests that the morbid condition may be of a rheumatic nature. This hypothesis does not, however, materially add to our knowledge of its genesis, because it is difficult to explain exactly what is meant by the term rheumatism. If we look upon trench shin as a form of rheumatism, the great majority of cases should be classified as that variety of rheumatism which spares the joints but affects the periosteum, ligaments, nerves, and other tissues. This type is sometimes designated "abarticular rheumatism." As examples of abarticular rheumatism we may mention myalgia, rheumatic iritis, rheumatic sciatica, rheumatic polyneuritis, and rheumatic facial neuralgia. Possibly cases of so-called fibrous rheumatism of joints, a condition characterised essentially by morbid changes in the ligaments with little or no change in the interior structure of the joints, may belong to the same category.

The conception of the existence of a pathological condition which may be termed infectious fibrositis is, I think, a useful one in medicine, as it gives a clearer idea of the origin of some diseases which are now recognised as clinical entities, chiefly from the study of their symptomatology. Fibrous tissue is very widely distributed in the body, and may, indeed, be said to form the framework of the body. Moreover, its chemical composition, in common with that of bone, probably does not vary materially with the organ to which it belongs. It is therefore easy to understand that the fibrous tissue in the muscles, nerves, and ligaments will exhibit an elective affinity for the same causative agents of disease as it appears to do in the condition which is now under consideration.

Diagnosis.

In the recognition of the disease the important points are the following: (1) A history of headache and fever in the early stage; (2) the presence of leucocytosis, even in the absence of fever; (3) pain and tenderness on pressure over the tibiæ and tibiales antici muscles; (4) the presence of a neuritis, particularly of the upper extremity; (5) the presence of pain in the ligaments and bony prominences around joints; (6) the greater intensity of the pain in the head, muscles, bones, and joints at night; (7) the prolonged course of the disease, usually from one to three months.

The characteristics of the pain, whether the morbid process be localised in the head, bone, ligament, joint or nerve, are sometimes of value in diagnosis. As already stated, in most cases the pain is worse at night. Some patients state that its intensity is increased by damp weather, others that it is aggravated by the application of heat. A common statement is that it is of a gnawing character, with exacerbations, during which it is "jumping" or "stabbing." Headache and pain in the shins are frequently so severe at night that it is impossible to obtain sleep without the administration of morphine.

Differential Diagnosis.

The symptomatology of trench shin may closely resemble that of trench fever. Indeed, there are some writers who maintain that the two affections are the same. Major T. Houston and Captain J. M. McCloy are two authors who hold this view. They recognise four different types, two described by McNee and Renshaw and two by themselves. They are of the opinion that all the types have the same symptomatology at the beginning, the difference being dependent on the course and duration.

Type 1.—In this type the temperature, which may rise as high as 103° or 104° F. during the first one or two days, tends to fall on or about the third day to normal or even subnormal. It then rises again, and fever may last for six days to a week, after which the temperature falls, with complete relief of the symptoms.

Type 2.—This type is less common, and exhibits the characteristics of relapsing fever. The initial attack lasts about three days, and when the temperature falls the patients feel so well that many of them have been returned to duty. Some days later the symptoms recur, often with a temperature of 103° or 104°. This relapse differs from that seen in the first type of case, in that it is the first of a series. Hunt and McNee state that the average duration of the relapsing type is not less than three or four weeks. In individual cases it may be considerably longer than this. McNee and Renshaw state that they have seen only 20 characteristic cases of this type, but that their experimental results indicate that it may supervene on the basis of the first type, showing that both forms are simply varieties of one and the same disease.

3. Myalgic type.—In the majority of these cases there was no history of previous rheumatism. It differs from the types previously described in that there is only one period of pyrexia, lasting from a few days to a week, whilst the myalgic pains, which are usually limited to the lumbar region and lower limbs, especially the shins, persist after the pyrexia has disappeared, in some cases for several weeks. Pain is worse at night and in cold damp weather.

4. Septicæmic type.—In the septicæmic type the onset is almost always sudden, and fever, without intermissions, persists for as long as from 11 to 30 days. Headache is a most persistent and severe symptom, and there are sometimes definite rigors, nausea, and vomiting. These last symptoms appear to be comparatively rare in the other three forms. After the temperature has fallen to normal recovery is usually rapid, there being no recurrence of the pains.

According to the above classification the affection which forms the subject of this paper would be of the myalgic type. I am not convinced that the classification of Major Houston and Captain McCloy is correct. The important symptoms of trench shin, in addition to the fever and leucocytosis, are headache and other symptoms which might be called rheumatic. The parts involved have been referred to in discussing the symptomatology. In trench fever headache and pain in various parts may be present, but in the great majority of cases these symptoms are not outstanding and are only present during the febrile stage. In some cases, however, pain in the shins may be present for two or three weeks, but this pain is not usually intense. Moreover, headache and soreness or pain in the back and other parts are common manifestations in the febrile stage of many morbid conditions. The difference between the origin of these symptoms and the origin of the manifestations of trench shin is dependent upon the difference in the affinities of the bacteria for fibrous tissue.

Prognosis and Treatment.

The course of the disease is very slow, but, as will be seen later, it varies considerably in individual cases. Recovery eventually takes place, however, after a period of two or three weeks to two or three months. As far as we know, there are no sequelæ. The best guide to progress in recovery is the intensity of pain, and if it gradually diminishes from day to day recovery may be expected in from two to three weeks. The leucocyte count also sometimes gives valuable indications in regard to prognosis, as recovery within a short time may be looked for if it is within normal limits.

The treatment is chiefly preventive. It is obvious that one of the first essentials is the avoidance of anything, such as tight boots or puttees, which is likely to obstruct circulation. Lorrain Smith, Ritchie and Dawson suggest the advisability of substituting moleskin leggings for puttees. These provide the protection of an ample cushion of air and drain more readily than puttees, thus minimising the loss of heat. Delépine suggests waterproof bags made of oiled silk, similar in shape to fishing-boots. The outer sock, which should be sufficiently large to draw over the oilskin, should be made of material which is not liable to shrink when wet.

In a book describing the preventive measures which were found most effective in the winter campaign of the Japanese Army in Manchuria it is recommended that the feet, legs,

and, if necessary, the whole of the body, should be thoroughly rubbed with animal fat or animal oil. In order to obtain the maximum effect the oil should be of high boiling-point and used in considerable quantity. Daily massage of the parts between periods of trench duty has also been recommended. A similar preventive measure has been much used in the present war—that is, applying vaseline or whale-oil liberally to the feet and legs.

In the curative treatment measures for treatment of an infectious disease are indicated. Rest in bed is essential. Acetyl-salicylic acid and phenacetin may be tried for the relief of pain, but it is often necessary to give morphia. In cases in which the pain in the tibiæ has been very severe an incision through the periosteum has sometimes been made, and is said to be of much value.

McNee and Renshaw, on the assumption that antibodies to the infected virus might develop in the course of spontaneous cure, removed 20 c.c. of blood from a patient 10 or 12 days after his last relapse, and four hours later injected the serum into the veins of two who were just beginning to relapse. It appeared to have no influence whatever on the course of the disease.

Illustrative Cases.

CASE 1.—Private H. The patient had been formerly a coal-miner, and had been in the service for one and a half years. His habits had been temperate and his previous health very good. He was admitted to No. 4 Canadian General Hospital, Salonica, on Jan. 27th, 1916. He stated that his illness commenced three days before admission, the first symptoms being headache and pain in the shins. He attributed the pain in the shins to exposure and a march of 19 miles. On the march he wore puttees, but they were not tight.

Present condition.—The patient complains of pain and a burning sensation in the shins, the dorsal surface of the feet, and the central portions of the tibiales antici, the pain being more severe at night and in wet weather. At night it is continuous, with exacerbations every few seconds, during which it is stabbing in character. There is pain on extension of the foot. The parts previously referred to are painful on deep pressure. Reflexes normal and active. No disturbance of epicritic sensation. Urine normal. White blood corpuscles 19,000.

CASE 2.—Sergeant-Bugler M. The patient, aged 28, had suffered from rheumatic fever at the age of 10 years. He had been in South Africa for two years and in India for seven years, and during these nine years had had three attacks of fever. He stated that aching pains in the leg had been fairly constant during the last month. His general health had been fairly good, but he felt weak and his appetite had been poor. His throat had not been sore, and his teeth were in good condition. There was no gastro-intestinal disturbance. During the last three weeks he had been in the hospital, but the pain had not been relieved.

Present condition.—On examination the heart, lungs, and urine were found to be normal. White blood corpuscles 22,000. Temperature normal. Soreness and pain are limited to the inner surfaces of the tibiæ and the dorsal surfaces of the feet. The tibiales antici are not involved. Both flexion and extension are more painful than normal. Reflexes normal.

CASE 3.—Sergeant B., admitted to No. 4 Canadian General Hospital on Jan. 25th, 1916. He stated that about the middle of last December he began to suffer from headache and pain in the back and thighs, especially on rising in the morning. It usually subsided after he had been moving about for a while. On Jan. 1st the pains had seemed to leave the back and thighs and become localised in the shins and front and side of the knees. There was also slight pain in the elbows.

Present condition.—Pain in shins and at the side of the knees over the tuberosities of the femur. It was of a dull throbbing character and was worse at night. White blood corpuscles 8000.

CASE 4.—Sergeant W., aged 31, admitted to No. 4 Canadian General Hospital, Salonica, on Jan. 24th, 1916. The illness commenced on Jan. 16th with fever, headache, and pain over the shins, which continued for four days, being worse at night. The headache lasted three days. When taken ill the patient was working at headquarters and had had no marching or exposure since December, when he was in Serbia.

Present condition.—There is marked tenderness over the bellies of the tibiales antici on both sides, and slight tenderness over the crests of the tibiæ, together with occasional pain in the knees. Dorsiflexion of the foot is painful. Pain is relieved by the application of heat. White blood corpuscles 16,000. Examination otherwise negative.

CASE 5.—Private W., aged 26. Two months previously, while in Egypt, he had found that he was unable to march owing to pain and stiffness in the legs. There was no fever. He had not been in the trenches or exposed to cold. During his previous seven months in France he had had no trouble.

Present condition.—On admission to No. 4 Canadian General Hospital on Jan. 26th complained of pain in the knees and shins. There was marked tenderness over the tibiales antici on both sides, especially above the ankles along the course of the tendon, and slight tenderness over the internal surfaces and crests of the tibiæ. The pain was worse at night, and not relieved by heat. Dorsiflexion of the foot painful. No fever. White blood corpuscles 14,000. Examination otherwise negative. On Feb. 5th the white blood corpuscles numbered 13,500. Pain still severe, the slight tenderness over the tibiæ remaining as before.

CASE 6.—Private L., aged 34, admitted to No. 4 Canadian General Hospital on Jan. 24th, 1916. Ten days previously, whilst on guard, he began to suffer from headache and pain in the front of the legs. It came on quite suddenly. He had been trench digging both in France and Salonica, but had not recently been exposed much to either cold or wet.

Present condition.—There is tenderness over the internal surfaces and the crests of the tibiæ. The tibiales antici are tender on pressure. Pain is worse at night and increased by heat. There is a callous area over each instep. Temperature 101·4° F. White blood corpuscles 12,000. On Feb. 1st marked pain and tenderness over internal surface of the tibiæ, in bellies of tibiales antici on both sides; worse at night. Since admission the temperature has been irregular, going up to 100° F. White blood corpuscles 10,000. Examination otherwise negative.

CASE 7.—Lance-Sergeant B., aged 24, had enlisted in Toronto on May 28th, 1915. In England Dec. 1st, 1915. In France Feb. 20th, 1916. Had an attack of *la grippe* about the end of February, 1916. The present illness began during the first week of June with headache, pains in the joints and muscles, and fever. The headache was aggravated by coughing and was worse at night. The patient was sent to a field hospital, where he remained for nine or ten days. Whilst there the temperature was normal or subnormal in the morning and slightly elevated at night. He returned to duty, but was unable to carry on. He was sent to hospital, Boulogne, and from thence, on June 30th, to the Ontario Military Hospital, Orpington.

Present condition.—Complained of weakness, of loss of appetite, and of pains in shoulders, elbows, wrists, knees, and ankles. Three days later—i.e., July 3rd—pain experienced in shins, which gradually became worse, and at the same time the pain in the joints became less severe. In about a fortnight the pain in the joints subsided. That in the shin bones was worse at night and seemed aggravated by dampness. Relief for an hour or two was sometimes obtained by taking 10 grains of acetyl-salicylic acid. The pain was of a gnawing character and was localised in the middle third of the tibiæ. The surfaces of the bones were sensitive and tender on pressure. Since admission the temperature had been normal or subnormal. On August 13th white blood corpuscles, 15,400; polymorphonuclears, 65 per cent.; lymphocytes, large and small, 31 per cent.; eosinophiles, 4 per cent. On the 25th the patient complained of a dull pain and tenderness on pressure at the back of the right shoulder, at about the level of the sixth or seventh cervical vertebra. On the 28th there was still pain at the back of the right shoulder. There was also pain along the posterior part of the internal surfaces of the arm, extending along the ulnar side of the forearm into the little finger and the adjacent half of the ring finger. The ulnar nerve was sensitive to pressure at the elbow. No material weakness of muscles supplied by ulnar nerve. Electrical reactions normal. Hyperæsthesia of little finger and adjacent half of ring finger. Pain at back of right shoulder produced by raising the right arm from the side. Slight pain in shin bones. On Sept. 9th the pain had almost gone from the shins, and that in the right arm had lessened. On Oct. 3rd the patient was free from pain and his general condition was fair.

The interesting points of this case are: (1) During the first two or three weeks of the illness the pain was chiefly limited to the joints; (2) the tibiæ became involved during the third week; (3) the ulnar nerve became involved during the eighth or ninth week; (4) the comparatively high leucocyte count in the absence of fever.

CASE 8.—Sergeant B., aged 43. Service 23 months. Health before enlistment good. On July 7th had been operated upon for piles at Dannes Camiers, and subsequently made a good recovery. About three or four weeks later the present illness began with pain at the back of the neck and left shoulder, the temperature being elevated. Three days later pain in shins and forearms. On August 12th transferred to Ontario Military Hospital, Orpington.

Present condition.—August 13th: Complaint: Pain in shins, forearms, and in a small area near the seventh cervical vertebra at the back of the left shoulder. Much worse at night. Pain in shins continues and of a gnawing character, with exacerbations, during which it radiates to the thighs and feet and is equally severe in both legs. The posterior and internal surfaces and crests are slightly sensitive. Pain and tenderness in the tibiæ are limited to the middle thirds of the bones. In the forearms there is little pain, but there is tenderness on pressure for about 5 inches above the wrist in a longitudinal line between the radius and ulna and at the back of the left shoulder just to the left of the seventh cervical vertebra. Raising the left arm from the side causes pain in the back of the left shoulder-joint. Temperature slightly elevated. White blood corpuscles, 15,500. The differential count gave the following percentages: polymorphonuclears, 75; small mononuclears, 15; large mononuclears, 6·5; basophiles, 1·5; eosinophiles, 1·5; transitional, 0·5. Sept. 2nd: Very little pain in shins. Area at back of shoulder and forearm still tender. Temperature has been normal for six days. 5th: Improved; very little pain, and only slight tenderness in areas mentioned above. Oct. 18th: Pain completely gone.

In this case, although the pain at the back of the left shoulder was similar to that of Case 7, there was no pain along the course of the ulnar nerve.

CASE 9.—R. H. L., aged 33, had enlisted in February, 1915, and was sent to France in February, 1916. The present illness commenced on Sept. 2nd, 1916, with headache, pain in arms, legs, and back, all these symptoms being worse at night. Slight fever during the first three days. The patient was sent to a clearing station, and thence to a hospital in Boulogne, and ten days later to the Ontario Military Hospital, Orpington.

Present condition.—Complaint: Pain in shins, back, thighs, biceps, and in tibiales antici. Worse at night, and all the painful areas tender on pressure. On coughing pain felt at the back of the head. White blood corpuscles 11,000.

CASE 10.—E. J. K., aged 49. Service nine months. Enlisted February, 1916, and was sent to France the following month. Health good until August 25th, when he began to suffer from pain in the left knee. Five days later pain was felt behind the left shoulder and a sensation of "pins and needles," as well as pain in the little and ring fingers of the left hand. He paraded sick, and was sent down the line to Boulogne, and thence two days later to Ontario Military Hospital, Orpington.

Present condition.—Sept. 3rd: Complaint: Pain and sensation of "pins and needles" in little and ring fingers of left hand, in ulnar side of left forearm, in the back of the left shoulder and left side of the neck, and slight pain in the left knee-joint. All the painful areas sensitive to pressure. The "grip" of the left hand weak. The muscles supplied by the ulnar nerve react to the faradic current. 10th: No pain in left knee. Condition of left arm remains about the

same. White blood corpuscles 10,400. Oct. 1st: Less pain in left arm. Nov. 1st: Strength of left hand improved. Coughing causes severe pain in left side of chest. Nov. 21st: Slight pain in ulnar side of arm. Pain on left side of chest on coughing. Dec. 1st: Patient still complains of slight pain in hand, left shoulder, and along ulnar side of left arm.

In this case the special localisations of the morbid process were probably limited to nerve and ligament.

CASE 11.—Private L. Patient enlisted in September, 1914, and was sent to France in August, 1916. In November, 1916, he reported ill on account of loss of power in right forearm and fingers. He suffered no pain except headache at the beginning of his illness. Immediately prior to becoming ill he had been exposed in the trenches to cold and wet, and one week after the beginning of his illness pain began in the shins. This lasted about ten days. Admitted to Ontario Military Hospital Dec. 3rd, 1916.

Present condition.—Patient unable to extend the right wrist (wrist-drop). Flexion and extension of right elbow-joint present, but on forced flexion at this joint the supinator longus does not contract. Inability to extend the proximal phalanges of the fingers. Over the back of the thumb and the radial side of the hand is an area of partial anæsthesia. Extensor muscles of hand and supinator longus react to faradic current, but the contraction to galvanic stimulation is changed. A.C.C. greater than K.C.C. Heart, lungs, and abdominal organs normal. White blood corpuscles, 10,600; polymorphonuclears, 53 per cent.; lymphocytes, 47 per cent. Jan. 24th: Patient very much improved. Can extend the hand slightly. Feb. 8th: Recovery.

This case was sent as one of musculo-spiral paralysis of unknown origin. From the clinical history I should judge that it may be classed with trench shin.

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AMŒBIC DYSENTERY AND ITS RELATIONSHIP TO A FORM OF DIARRHŒA OCCURRING IN EGYPT.

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DURING the past year the opportunity has been given me of studying the illnesses among naval ratings during the first few months of their residence in Egypt. Diarrhœa and amœbic dysentery have been by far the commonest causes of ill-health, and I am here suggesting a relationship between these two conditions.

Diarrhœa with Gastric Symptoms.

Of the Europeans who arrive in Egypt for the first time, it is probable that nearly 90 per cent. suffer from a form of diarrhœa, associated with gastric symptoms, which is so common that it is known among Anglo-Egyptians as "Egyptian stomach." The first attack usually comes on within a fortnight of arrival in the country, while subsequent attacks may recur at intervals of from one to two weeks. After a residence of roughly six months the disease entirely subsides and does not again appear. Owing to the comparatively slight symptoms the condition has failed to attract any very great notice among specialists in tropical medicine.

A typical attack usually begins in the early hours of the morning, although it may commence at any hour of the day or night. At first there is only slight abdominal uneasiness, but this is quickly followed by definite griping pains, confined for the most part to the epigastric and umbilical regions. There is a marked desire to empty the bowels, though evacuation gives little relief. As many as 10 or 15 stools may be passed during the day. Nausea and vomiting are present in about three-quarters of the cases, while in a few instances headache is a marked symptom. The temperature is slightly raised in the evening—98·8° to 99·8° F., while the posterior part of the tongue is covered with a brownish fur. The diarrhœa does not persist for more than two or three days at the outside; it is usually followed by constipation. About a week generally elapses before the bowels regain their normal action. A similar attack may recur within a fortnight or three weeks of the original attack. The fæces are always fluid in character and in a typical case resemble pea-soup; blood and mucus are absent. The blood shows no definite changes, except a slight but constant increase in the large mononuclear leucocytes (10–18 per cent.).

The condition is not confined to any particular class; officers and men, whether living ashore or afloat, are equally affected. It has no relationship to the presence of sand-storms, which in this country are confined to the early spring months. Dietetic errors are hardly likely to be responsible for so prevalent a condition. There appears, however, some ground for considering the disease to be of an infective character. Thus, of 120 sailors arriving in Egypt in March, 1916, 30 had reported sick with the condition by the end of July, while a further 50, on questioning, confessed to having had attacks of diarrhœa and gastritis, though they had not deemed the occurrence worth reporting. Since August these men have been entirely free from this condition, though they have not been exempt from attacks of amœbic dysentery. As a general rule, the diarrhœa and gastritis are more severe in persons under 20 and over 40 years of age.

Amœbic Dysentery.

The second most important cause of sickness among naval ratings has been amœbic dysentery. Cases of this condition can be separated into two classes: (1) Old dysenterics who have relapsed; (2) first attacks in persons who have never before been abroad. In the present series of cases the former class constitute nearly 20 per cent. of the total number, and as in the majority of instances the dysentery was first contracted in Gallipoli, during the Dardanelles campaign, since then these cases must have been acting as "convalescent carriers." Doubtless an examination of the stools of everyone in Egypt, if such a thing were possible, would reveal the presence of a very large number of carriers of this description.

For the most part, the cases all conformed to the classical type of a mild amœbic dysentery, with blood and mucus in the stools. The clinical symptoms were headache, lassitude, slight abdominal pain, and diarrhœa, with some tenesmus. The temperature was slightly elevated, but rarely exceeded 100°. On microscopical examination *Entamœba histolytica* was found to be present in the stools in every instance, though, as is so common in this form of dysentery, the excretion of entamœbæ was of an intermittent character.

Apart, therefore, from the condition of the stools, the clinical symptoms were very similar to those described as occurring in the condition known as "Egyptian stomach." In the case of first attacks of dysentery, the dysenteric symptoms do not as a rule manifest themselves until the patient has been resident in the country for a few weeks at least. In one instance, however, a sailor, 18 years of age, developed a typical attack of amœbic dysentery two days after arrival in Egypt. The patient stated that he had never before been abroad, but two years previously had had an attack of dysenteric-like symptoms. Inquiry, however, showed that both the boy's father and brother were in the Army; the former had returned from India shortly before the patient's first attack. This, therefore, appears to have been an autochthonous case occurring in England. An attack of dysentery may, however, manifest itself after a residence of some months or even years, but in many cases there appears to have been a previous history of "Egyptian stomach." Thus inquiry into 40 cases of dysentery occurring for the first time elicited that in 36 instances there was a previous history of one or more attacks of "Egyptian stomach," preceding the onset of dysenteric symptoms. The intervals elapsing between the last attack of "Egyptian stomach" and the commencement of the dysentery varied from a few days to some months.

Relationship of the Two Affections

In order to determine whether there was any relationship between the two conditions a microscopical examination of the fæces was carried out in 110 cases of "Egyptian stomach." In regard to the presence of entamœbæ, the following results were obtained:—

Entamœbæ entirely absent	8	cases.
Entamœba coli present	10	,,
Entamœba histolytica	36	,,
Entamœba minuta (Elmassian)	49	,,
Entamœba minuta (Elmassian), together with tetragena cysts	7	,,

A method of vital staining was employed, neutral red being used in a dilution of 1 in 10,000, as recommended by Rogers.[1] By this means the entamœbæ are coloured a rose pink, while the background remains unstained.

An analysis of the above figures shows that in 43 instances the causal agent of amœbic dysentery—*Entamœba histolytica*—was isolated from the stools. It was present either in the vegetative form (36 cases) or in the encysted stage (7 cases). It has been recently pointed out that this latter stage may occur, not only in chronic, but in very mild cases of dysentery.[2]

In 56 instances there was present, either alone (49 cases) or in conjunction with tetragena cysts (7 cases), an organism which was probably *Entamœba minuta*. This variety was first described by Elmassian as occurring in soft diarrhœal stools.[3] It has lately been found to be much more common than was formerly supposed,[4] while the majority of authorities are now agreed that it is merely a stage in the developmental cycle of *Ent. histolytica*, probably a precystic trophozoite stage.[5] The minuta variety resembles *Ent. coli* in size, but differs from it slightly in appearance. Not infrequently the endoplasm contains a few red blood corpuscles. The only definite means of differentiating between *Ent. coli* and *Ent. minuta* lies in inoculation experiments. In the present instance these unfortunately could not be performed. There is, however, presumptive evidence to prove that in the cases above referred to the organism present was *Ent. minuta* and not *Ent. coli*.

When I first studied "Egyptian stomach" I treated the condition as one of simple diarrhœa. Bismuth and opium were prescribed with excellent results so far as the relief of the immediate symptoms was concerned. Within a month, however, eight of the patients so treated developed classical attacks of amœbic dysentery, *Ent. histolytica* being isolated from the stools. Since that date all cases of "Egyptian stomach" which have come under me have been treated with a course of emetine injections, with the result that only one of the patients so treated has subsequently developed amœbic dysentery.

To summarise the results, it may be said that of 110 cases 43 showed the presence of *Ent. histolytica* either in the vegetative or encysted form, while in 49 there was some evidence to prove its presence in the minuta form.

In those countries where it is endemic, amœbic dysentery is of very common occurrence, a fact which is illustrated by the large amount of original work that has emanated from Egypt and India on the subject. Although no figures are available as to the number of carrier cases in these two countries, it must be very considerable. In the case of Tonkin it has been found that no fewer than 8 per cent. of the population are dysentery carriers.[6]

It has long been recognised that every person is at some time or another exposed to infection from tubercle bacilli; in exactly the same way it is probable that in a country such as Egypt everyone is sooner or later exposed to entamœbic infection. Not only is there a vast army of carriers among the general population, but the agents of dissemination in the shape of flies are also constantly present. It would, however, appear that in the majority of individuals the entamœbæ are rapidly removed from the system.

The presence of active amœboid forms in the intestine is correlated in the first instance with certain clinical symptoms—the condition known as "Egyptian stomach." As the vegetative activity of the entamœbæ disappears, the acute symptoms also decrease, while the cysts which are then formed may either be destroyed in the intestine or else continue to be passed in the process of defæcation. The clinical symptom "diarrhœa" is in reality a protective mechanism, whereby the organism seeks to rid itself of deleterious matter in the intestine. The fatigue and a consequent lowering of the resistance caused by excessive evacuation are only secondary effects. In some individuals, the entamœbæ, as has been said before, continue to flourish, without, however, giving rise to any symptoms, until such time as the general resistance becomes lowered, when an attack of dysentery may supervene.

Before the war amœbic dysentery was comparatively rarely met with in the British Isles; with the cessation of hostilities and the return from hot climates of large bodies of men it is probable that the disease will become much more common, unless measures are taken to detect and effectively treat all carrier cases. This, however, is a work of the very greatest difficulty. It is therefore essential to prevent, by all possible means, the formation of such carriers. One of the methods to be employed in this connexion should be the treatment of all suspicious conditions, such as "Egyptian stomach," with what is practically the only specific for amœbic dysentery—namely, emetine.

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THE TREATMENT OF GONORRHŒA IN A FIELD AMBULANCE.

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THE essential equipment of a field ambulance is for the reception and treatment of casualties occurring in the field. The scale of equipment shows that it has never been contemplated that such a unit will ever be called upon to treat cases of gonorrhœa. Theoretically no man is allowed to proceed on active service while suffering from venereal disease, and (also theoretically) he is not able to acquire it while in the field. In practice this theory often breaks down, and a case of gonorrhœa or syphilis may, and often does, fall to be treated in a field ambulance. Such a case may have to remain in the ambulance for weeks before it can be transferred to a hospital which is equipped with the proper means for administering treatment. For example, when the transport, carrying some 3000 troops, on which the field ambulance to which I belong had been two days at sea, *en route* for the Dardanelles, five men were admitted to the troops' hospital suffering from acute gonorrhœa. These were evidently new first infections, and at the medical inspection of troops prior to embarkation had presented no symptoms, thus escaping detection by the regimental medical officers. As a field ambulance was on board, to it fell the medical care of the troops, and as these cases of gonorrhœa were handed over to me I was presented with the problem as to how they were to be treated efficiently and rendered fit to return to full duty in the shortest possible time with the slight means of treatment at our disposal.

It is of very vital importance that cases of gonorrhœa occurring in soldiers, and especially in those proceeding on active service or actually in the field, should be brought under treatment immediately and efficiently, that they should be cured quickly, and that the cure should be a permanent one. To the "slacker" a chronic gleet is a heaven-sent gift to enable him to report sick and so evade his duty. A certain type of soldier—happily not a common one—will retain a gleet and take admirable precautions against it being cured, so that he can produce it on sick parade the very moment that he knows there is any hard work in front of his battalion. The penalties for the concealment of venereal disease do not act as a deterrent. The loss of efficiency when an acute gonorrhœa is allowed to lapse into the chronic state is very great indeed.

Consideration of Methods of Treatment.

A rapid, efficient, and permanent cure was the object aimed at in the five above-mentioned cases. The four following methods of treatment suggested themselves: (1) Drugs—e.g., copaiba, &c.; (2) injections with a syringe; (3) a combination of (1) and (2); or (4) Janet's method of pressure irrigation or "lavage." The first three methods were discarded because they are unscientific, inefficient, and dangerous.

Drugs are slow in their action, extremely uncertain, and create digestive disturbances, rashes, &c. They are the stock-in-trade of the venereal-treating chemist and the quack; and in a proportion of the cases where they are prescribed by a medical man they are simply a salve to the conscience of a lazy practitioner. I have known many instances where an untreated gonorrhœa—in men on board sailing ships, for example—has progressed just as favourably

as one which has been treated by the swallowing of copaiba, sandal-wood oil, methylene blue, and so on.

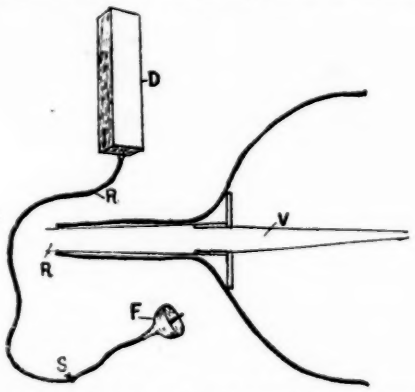
The use of a syringe, whether in the hands of a surgeon or of the patient, is fraught with danger. To cause a patient with an acute gonorrhœa to first empty his bladder and then to force a jet of silver nitrate or some such solution against his compressor urethræ muscle too often results in some infection being forced back behind the compressor into the posterior urethra or bladder. A certain period of time elapses before the patient collects enough urine to again micturate and wash out the injection, and during this time the gonococci have had the chance of implanting themselves in virgin soil, and the common sequelæ—posterior urethritis, epididymitis, and cystitis—result. Further, in gonorrhœa micturition takes place before sufficient urine has collected to properly wash out the infective material and a certain amount of it remains. A syringe, even in the hands of the surgeon, is unsafe; in the hands of the patient it is dangerous. Too often the patient, having been taught by the surgeon to use a syringe, decides that he can do it as well as the surgeon. He decides to save the surgeon's time and his own money, so, armed with a syringe and an injection solution, he solemnly washes the infection into his bladder. The syringe is bad treatment and the sooner it is relegated to the museums as a relic of the dark ages of urology the better.

No matter how careful one may be, one is always in danger of overcoming the resistance of the compressor urethræ muscle, forcing back some gonococcal material and extending and complicating an originally simple disease. There is present, but in a lesser degree perhaps, the same danger in cases which are treated by drugs internally. The painful erections to which these patients are subject frequently cause slight relaxation of the compressor and backward extension of the disease.

Adherence to the first three methods enumerated causes the complications of gonorrhœa which are, unfortunately and unnecessarily, so familiar; and when complications occur in a case of simple gonorrhœa it is a proof that the treatment is bad or inefficient. No case of anterior urethritis (and all gonorrhœas are at first confined to the anterior urethra) coming under treatment before backward extension has taken place should ever have any complications or sequelæ. The disease begins anteriorly; it should continue anteriorly. It should finish in the same place, and "leave not a wrack behind." By proper use of the Janet method this can be done; improvement is rapid, the relief of symptoms is almost immediate, and the cure is permanent.

The Method Adopted.

Holding these opinions, I was forced to extemporise a much modified Janet's lavage apparatus, as is shown in



Sketch of extemporised Janet's lavage apparatus, with a longitudinal section on a larger scale through the filter funnel showing the nozzle in position. D, douche-can; R, rubber tubing; F, filter funnel; V, vulcanite nozzle; S, stopcock.

the illustration. It was composed of a douche-can with a holding capacity of four pints. This was procured from No. 1 Field Surgical Pannier. Two separate 3-ft. lengths of rubber tubing were also culled from the same source. These were joined together by a vulcanite stopcock. One end of the tubing was fixed to the outlet of the reservoir; the other end was threaded through the stem of an enamelled-iron filter funnel and finally finished off with a vulcanite enema-syringe nozzle, as is shown. The object of the filter funnel is, as in Janet's apparatus, to catch any backwash from the urethra and to protect the surgeon from being splashed with the returning solution. The solution used was potassium permanganate. No definite strength was adhered to, as the urethra gradually acquires a toleration to potassium permanganate. On the first day irrigation was commenced with the solution of a faint pink colour, and this was gradually increased in strength each day.

The theory of the treatment is briefly this. It is to be recognised that the great danger in all local treatment of gonorrhœa is of infective material being carried past the barrier of the compressor urethræ *and being left there.* This danger is realised as being inevitable, and so means are taken to wash out the whole urinary canal from the bladder to the meatus, and thus to ensure that every vestige of infective material is carried away. At the same time, the lavage solution is of such a nature as to render innocuous any slight amount of the organisms which may be present.

The method is as follows. The patient having micturated (thus flushing out the urethra), he is placed lying on his back on a table, with his legs apart and his thighs slightly flexed. Between his thighs is placed a basin to catch any back-flow of solution from the urethra. The glans and prepuce are thoroughly cleansed, the douche-can is raised about 2 ft. above the patient's pelvis, an assistant turns on the stopcock, and a gentle stream of the irrigating solution is allowed to flow. The temperature of the solution is 104° F. The surgeon then inserts the nozzle, while the stream is flowing, into the urinary meatus, and the anterior urethra is thoroughly washed out. An elevation of 2 ft. of the reservoir above the patient's pelvis is not sufficient to overcome the resistance of the normal compressor. The irrigation stream is kept at a steady flow, and by alternately inserting and withdrawing the nozzle from the meatus the anterior part of the urethra is thoroughly flushed with fresh solution. The back-flow is caught by the protective shield of the filter funnel and collected in the basin between the thighs of the patient. The elevation of from 2 to 3 ft. is, while not overcoming the compressor, sufficient to cause a dilatation of the anterior urethra, to open up the crypts and lacunæ, and to bathe them in permanganate solution, thus bringing every part of the urinary canal under the influence of the irrigating solution. If the disease is confined to the anterior urethra that ought to be sufficient. This is all that is done by the syringe method. Theoretically the syringe method stops there. But when it is realised that in spite of all care infection may exist in the posterior urethra, or that while washing out the anterior part the compressor may, as it often does unknown to the patient or surgeon, relax momentarily and allow some infection to pass backwards, then it becomes one's duty to take measures to counteract such a happening and to prevent its consequences. The point to realise is that there is no means of absolutely preventing relaxation of the compressor, therefore one has to suppose that in every case relaxation has taken place, and that it behoves one to take appropriate measures to prevent any damage. The reservoir is now raised to a height of 5 or 6 ft. and the stopcock is opened to its fullest extent. Experience has shown that this elevation is normally sufficient to overcome the compressor. The patient should be instructed to breathe easily and to attempt the act of micturition, thus relaxing the compressor, and the solution will be found to run into the bladder.

Occasionally one experiences a little difficulty in overcoming the compressor. This is usually due to nervousness on the part of the patient. If he is engaged in conversation and his mind is taken off contemplating the novel experience he is undergoing, it will often be found that the compressor is "caught napping" and that the solution will run in. In other cases it may be necessary to "dodge the compressor" by projecting alternately vigorous and weak jets of the solution against it. The assistant can do this by regulating the opening of the stopcock. If the patient has the rationale of the proceedings explained to him, he overcomes his nervousness, takes an intelligent interest in the matter, and can help materially in filling his own bladder. Once the barrier has been overcome the force and pressure of the stream keep the urethral canal patent.

In the most difficult case, uncomplicated by an old stricture, perseverance will always succeed, in spite of the belief

prevalent in many minds that the bladder can only be filled by means of a catheter. The truth is that with a little experience any normal bladder which is guarded by a normal urethra—i.e., one which is free from greatly abnormal narrowing—can be filled by the above method.

By means of percussion and by heeding the patient's sensations one can tell when the bladder is full. When this stage is reached the stopcock is closed, and by compressing the meatus of the urethra with the fingers all the fluid is retained in the urinary passages. The bladder and urethra are now fully dilated by the pressure of the solution; every recess and crevice is bathed in it, and every focus of infection is opened up and subjected to its action. If after the lavage of the anterior urethra any gonococci have been carried back to the bladder, they are now floating, well diluted, in a vast ocean of bactericidal solution. After allowing the solution to remain in the urethra and bladder for 20 or 30 seconds the meatus urinarius is released, and the anterior urethra empties itself. The patient now sits up, and by the act of micturition empties his bladder of the permanganate solution into a basin. The solution usually returns slightly reduced at first. The whole procedure is repeated several times till the permanganate returns unchanged.

It will be found that the first attempt to fill the bladder is the most difficult, but that as soon as the patient overcomes his nervousness and realises what is required of him it becomes perfectly simple. Some patients rapidly learn to do the lavage themselves and carry through the whole treatment in a perfectly easy and skilful manner.

Results of Treatment.

The treatment of the five cases mentioned was followed in accordance with the above principles. Lavage was carried out three times daily for the first three days at 9 A.M., 2 P.M., and 9 P.M. The patients were put on light diet and forbidden alcohol or condiments, but smoking was not restricted. They were given no drugs internally, but were ordered to drink as much water as they could. This excellent diuretic kept the urine bland and non-irritating. On the second day of treatment they reported that they had no pain on micturition, and the discharge, which had been copious and creamy 24 hours before, was thin and small in quantity. On the third day all use for gonorrhœa bags had ceased as the discharge was negligible. From the third to the tenth day they were irrigated twice daily, morning and evening. On the eighth day, in one of the cases, the discharge was completely stopped and he had no other symptoms. He was put on full diet and beer. Next morning he had a slight discharge, so he was returned to treatment. On the tenth day Malta was reached, and the cases now who exhibited no symptoms whatever went sent ashore to hospital, so that a microscopic examination of smears from their urethras could be made as to the presence or absence of the gonococcus, which is the only real test of cure. The "two-glass" test, which was done before they were sent ashore, showed no turbidity in either of the glasses, except in the first glass of the patient who had been put on full diet and beer. In his case there were a few flakes present. The transport left Malta the same day, so that the cases were lost sight of.

The conclusions which present themselves may be summarised as follows. That treatment by the Janet method, as described above, is more successful in rapidity of disappearance of symptoms than any other; that in civil practice experience has shown that the gonococcus can be cleared from the urethra in three weeks by this method; and that there are no sequelæ. These things are perhaps even more important in soldiers on active service than in civil life; and even with the modified and extemporised apparatus used as described the results were almost perfect. Lastly, it is not beyond the resources of a field ambulance on active service to treat efficiently and cure cases of acute gonorrhœa by the method of lavage.

THE HEALTH OF SCHOOL CHILDREN IN DEVONSHIRE.—The medical officer of health for the county of Devon in his annual report states that between 35 and 40 per cent. of the boys leaving the schools under the Devon education committee were under the normal weight. He adds that the boys suffered from insufficient food and rest, and that insanitary conditions existed in the schools and their homes.

RETROGRADE STRANGULATION OF THE INTESTINE FROM CONSTRICTION BY AN EXTERNAL APERTURE.

BY SPENCER MORT, CH.B., M.D. GLASG., F.R.C.S. EDIN., F.R.S. EDIN.,

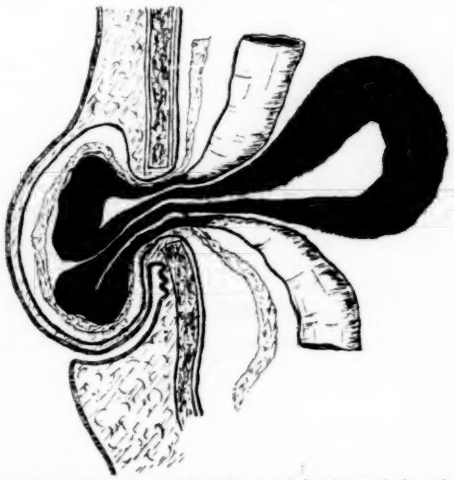
LIEUTENANT-COLONEL, R.A.M.C., COMMANDING EDMONTON MILITARY HOSPITAL.

MADYL'S hernia is a type in which the intestine descends into the sac in a W fashion, thus there are two external loops united by a third, which remains for the most part in the abdomen. Similar cases have been described by Peyrot, Lauenstein, Macewen, Pringle, Laroyenne, and others. In the event of strangulation three loops may be involved. In the case described by Laroyenne,[1] and reported[2] and translated by me, the following was the condition:—

The patient, aged 60, suffered for a long time with a reducible hernia about the size of two fists, which passed from the right inguinal canal into the scrotum. The evening before the operation the hernia became irreducible and signs of complete strangulation of the bowel came on suddenly without distension of the abdomen. At operation next day the sac was opened and abundant lemon-yellow serous fluid escaped. Two loops of bowel presented inside the sac—a portion of the cæcum with the terminal part of the ileum and a loop of small intestine. Both looked healthy without any appearance of ecchymosis or sloughing and the constriction was sufficiently loose to allow them to be drawn down easily for examination of the neck of the protrusion. This manœuvre revealed a third coil of small intestine, joining the two in the hernia, and passing upwards into the abdominal cavity. This portion was completely strangulated, black in colour, and studded with greenish spots of commencing gangrene, an appearance extending far up in the coil. Laparotomy was then done, and the attachment of this loop to the two portions of the bowel in the sac was confirmed. Some bloody fluid with a fœtid odour was found in the peritoneal cavity, but resection was deferred on account of the collapsed state of the patient and the great extent of damaged intestine. The wound was left open, with drainage of the abdomen in the region of the dead gut, but during the night the patient succumbed. An autopsy was made, at which it was found that over six feet of the bowel was destroyed by strangulation. No other abdominal lesions were found.

In résumé, the author considers that the immunity of the cæcum is due to the thickness of its walls. As to the reason for damage to the intra-abdominal small intestine, with escape of the protruding small intestine, he believes that torsion on its axis probably occurred. Such was not noted post mortem, but the conception is favoured by the great length of the bowel, pedunculated in a sense at the internal ring.

FIG. 1.



Retrograde strangulation of intestine; triple strangulation through one aperture. The omentum is seen passing into the sac which is above the umbilicus.

A similar case is worthy of notice.

The patient, housewife, aged 50, was of an extremely stout habitus, and suffered for 12 months before the date of her operation with an umbilical hernia, of a large size, for which she wore a belt. She was sent to me by Dr. William Thompson, of Waltham Abbey, on April 2nd, 1912, as a case of strangulated umbilical hernia; the history being that the rupture could be replaced until 36 hours before, but, leaving off her belt casually and going to stool, it became fixed externally, this immobility coinciding with the onset of the usual symptoms of acute intestinal obstruction. She continued at

her household duties after descent of the hernia and did a hard day by the wash-tub. On admission this history was confirmed, and the patient, whose general condition was feeble, was prepared for immediate operation. She had a hard swelling above the umbilicus as large as the head of a two-year-old child, hanging downwards from a pedicle and overlying and concealing the natural umbilical scar. The abdomen was opened and the sac exposed and found to be jet black in colour with gangrene; on its incision sanious ill-smelling fluid escaped, while imprisoned inside the mass, and covered by a false sac of sloughing omentum, was found a dilated portion of dead small intestine arranged in groups partly glued together. The constriction was fibrous and extremely tight, situated above the infantile position of the umbilicus, and on section the strangulated gut was pulled down, as a routine measure to inspect the effect of the annular pressure on the coats of the imprisoned neck. Two loops had been incarcerated outside: as a consequence the intermediate part between them was pulled down for examination and was found to be gangrenous and decomposing. (See Fig. 1.) The total gangrenous portion involved, to the extent of three feet, was resected; the general state of the patient being critical, anastomosis was not attempted, but the cut ends were pulled into the wound instead and fixed there for temporary purposes, creating an artificial fistula. (See Fig. 2.) In the evening the patient was much relieved and free from discomfort, while intestinal contents poured freely from that end of the intestine which was physiologically uppermost. Convalescence, in fact, appeared to set in, and I was lured into the hope that success might follow; but this was of a temporary nature, as on the eighth day after operation the patient died. No post mortem was done.

FIG. 2.

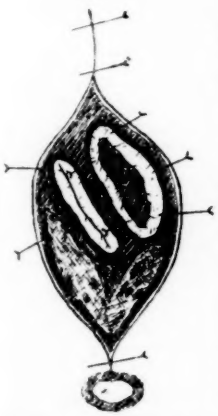


Diagram of parts after operation. The cut ends of bowel are stitched together and to the wound, the lower part of which is packed with gauze.

Pringle [3] records three cases:—

1. Male, aged 27, large scrotal hernia of six years' duration, two loops strangulated externally.

2. Male, aged 55, right inguinal hernia of 14 years' duration, two loops external and irreducible.

3. Male, aged 38, scrotal hernia of 14 years' duration, with three external loops, one normal, one partially strangulated, and one completely strangulated.

This last astonishing case had thus six necks of constriction, and five loops nipped, three external and two internal intermediate connexions, all resulting from one pressure-ring.

Macewen [4] operated on a man with an old-standing mass in the femoral region, attributed to tumour formation, who later developed an increase in the size of the swelling with signs of obstruction. Operation showed an old hernia, non-strangulated, with another recently nipped loop of bowel by its side. The immunity from constriction of the old hernia was due to the thickness of the bowel wall, which, accompanied by masses of "livery" omentum, was possibly a resultant hypertrophy from continued hyperæmia.

Another case was that of a man, aged 26, with a large right inguinal hernia of four years' duration. Lauenstein [5] has the greatest experience of these cases. His interest was first drawn to a patient showing "artificial anus with four lumina," since observing which he has drawn attention to other conditions of a similar nature. The following signs are formulated by him as an aid to diagnosis: 1. The hernia is usually right-sided, scrotal, and of long duration. 2. There may be evidences dependent on a distended condition of the internal loop—e.g., a marked asymmetry in the lower part of the abdomen. 3. There may be a furrowing of the scrotal tumour, with a difference in percussion note over two parts, if one loop contains air, the other fluid.

In my own case here recorded there is an absence of all these points set out by Lauenstein. There was a triple strangulation through the one ring at the umbilicus, two externally and one internally, typical of the condition described by Madyl and Benno Schmidt. The most treacherous cases are those in which no protruded saccular loops are badly nipped, the cœlomic loop alone being affected; the lesson is, of course, that in every operation for hernia the part compressed must be drawn out and *visually* examined, not only to see the condition of that portion so tightly gripped, but also to inspect the inner loops, if present, as to their vitality. The external double-loop strangulation or protrusion itself is of interest, but hardly more than as a surgical curiosity; the resultant inner or retrograde strangulation, be the part originally in the abdomen or be it a second hernia back to the abdomen from the external sac, is of truly vital interest, as if left unrecognised it may cause unaccountable death in cases where loops are casually returned and a radical cure performed without suspicion of the danger which lurks behind. Therefore every case reported will be of value in authenticating a serious disease.

References.—1. L. Laroyenne: Gazette des Hôpitaux, February, 1907. 2. Spencer Mort: Glasgow Med. Jour., April, 1907. 3. J. Hogarth Pringle: Edin. Med. Jour., June, 1906. 4. John A. C. Macewen: Brit. Med. Jour., April, 1910; also ibid., October, 1913. 5. Carl Lauenstein: Arch. f. klin. Chir., 1894; also Deut. Zeit. f. Chir., 1905; ibid., 1909.

THE TREATMENT OF VARICOCELE BY EXCISION.

BY PHILIP TURNER, M.S. LOND., F.R.C.S. ENG.,
MAJOR, R.A.M.C., T.C.

THE result of the operation for varicocele is by no means always perfectly satisfactory. This has been brought to notice particularly during the war when the operation has been most usually performed on recruits, or on soldiers who have gone sick with this trouble as the result of the strain of service. In these men rapid convalescence and complete recovery are of the greatest importance, while slow convalescence and a persistence of symptoms are a disappointment to the operator who hoped that the men would soon be fit for full duty. Quite apart from the question of neurosis, which certainly does exist in a certain proportion of cases, it is quite common to find a good deal of pain and tenderness persist, often associated with the scar and the induration beneath it where the veins have been ligatured and the divided ends of the varicocele have been tied together.

The usual indication for the operation is the existence of pain and aching, either continuous and persistent or brought on by excessive exertion or by riding, and when the symptoms are only imperfectly relieved by wearing a suspensory bandage. These symptoms are due in part to the dilated plexus of veins and in part to the low position of the testicle, the importance of the latter being shown by the relief often given by the mechanical support of the bandage. The object of the operation should thus be twofold—(*a*) to remove the dilated plexus of veins, and (*b*) to raise the testicle to a higher level and give it better support.

The operation of excision of a varicocele is usually performed in the following manner. The spermatic cord is exposed just below the external abdominal ring; the veins, after division of their fascial covering, are separated from the vas, a few being allowed to remain with this structure. By drawing the cord at first in an upward direction and then downwards the dilated pampiniform plexus is separated as low down as the tunica vaginalis and as high as thought desirable. After ligatures have been securely placed above and below, the intervening mass of dilated veins is cut away, and then, with a view to permanently shortening the spermatic cord and raising the position of the testicle, the ends of the ligatures which have been left long are knotted together, approximating the divided stumps of the veins.

The operation as thus performed certainly fulfils the first of the above-mentioned conditions, but it quite fails to carry out the second. The testicle is not normally suspended by the spermatic cord nor by the pampiniform plexus, neither does its position depend upon the length of the cord. Both suspension and position depend upon the fascial sheath of the cord, composed of cremasteric, intercolumnar, and infundibuliform fascia intimately blended together, which has definite attachments above and is continued below around the parietal part of the tunica vaginalis. The important part played by the sheath in the suspension of the testicle is shown by the action of the cremaster muscle.

The following sequelæ may be the result of the unnatural support given to the testicle by tying together the divided stumps of the dilated veins.

1. There is a "callus-like" inflammatory thickening around the junction of the divided ends. This is often painful and tender and these symptoms may persist for a long time.

2. The inflammatory mass which is formed around the divided veins may become adherent to and incorporated with the surrounding tissue, impeding the free mobility of the testicle.

3. The amount of inflammation may be excessive and suppuration may occur.

4. Generally speaking, the length of the venous plexus which should be excised is greater than the elevation of the testicle which is called for. Thus it is desirable usually to remove three inches or more of the veins, while the testicle should be raised about an inch or an inch and a half at the most. The testicle may thus be unduly raised and its mobility at the same time impaired.

Recently I have endeavoured to overcome these disadvantages by excising the varicocele without joining the divided ends of the veins and procuring increased support to the testicle and raising it to a higher level by shortening the fascial sheath. Various methods of effecting this have been tried. At first I excised portions of the sheath and united the divided ends by sutures or ligatures, but the inflammatory thickening still made its appearance. Lately I have employed the method below which has proved very satisfactory.

The spermatic cord is exposed by the usual incision just below the external abdominal ring; the cord enclosed in its fascial covering is then freed and drawn out of the wound. With a knife or a sharp pair of scissors a longitudinal incision an inch or an inch and a half in length is made through the fascial coverings in front until the veins are exposed. The middle of the incision is secured on each side by a pair of Spencer Wells forceps, which act as retractors. With a blunt dissector the veins are separated from the sheath on each side until the vas, which is situated behind and is more closely connected with the sheath, is reached. The anterior three-fourths or so of the venous plexus, including all the dilated veins, are then separated, leaving the remaining veins with the vas, which is not touched and is not separated from the sheath. The anterior mass of veins is now drawn downwards and a little dissection frees them as high as is thought desirable. Next they are drawn upwards and the separation can now be effected as low as the top of the tunica vaginalis. The separated group of veins is now ligatured above and below and the intervening part is cut away. The ends of both the ligatures are cut short and the testicle is replaced in the scrotum. The sheath is now shortened by retracting the lateral margins of the longitudinal incision and closing this by a fine continuous catgut suture in the transverse direction. It is well first of all to approximate the upper and lower angles of the incision with forceps and to observe what effect this has on the position of the testicle. As a rule, it raises it to a slightly higher level than the testicle of the other side, but if further elevation is considered desirable the length of the original incision can be increased. All bleeding points are then secured, and the wound is closed in the usual way. The great advantage of this operation is that the opening in the sheath is completely closed, and hence the cord and the divided veins do not become adherent to the surrounding tissue. The tender inflammatory nodule around the site of the operation is absent or only very slightly marked, while the testicle remains suspended in a normal manner in the scrotum at a higher level with its mobility unimpaired. I have now operated on six cases at No. 3 General Hospital in this way, and although they are too recent to enable one to speak of the ultimate result, their convalescence has been more rapid and there has been much less pain and fewer after-symptoms than with the ordinary operation. With a little practice the operation thus performed is just as simple and as easily carried out as the ordinary operation and it has the advantage of being much neater.

V.A.D. HOSPITALS.—Totnes, Devon, has had the "Strathmore V.A.D. Hospital" for the past two and a half years. It contains 22 beds, but recently it has been felt that a larger institution was required, and consequently Follaton House, Totnes, has been opened as a V.A.D. hospital with accommodation for 50 beds. Dr. Walter Chapman is the medical officer in charge.—Maxstoke Castle, Warwickshire, which was built in 1345, has been lent to the British Red Cross Society by the Rev. and Mrs. D. L. Lee-Elliott as an auxiliary hospital for convalescent soldiers. It will accommodate 30 patients with the necessary V.A.D. staff.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

A CASE OF GUNSHOT WOUNDS OF FACE AND THIGHS; ŒDEMA OF GLOTTIS; DEATH UNDER NITROUS OXIDE ANÆSTHESIA.

BY G. H. COLT, M.B., B.C. CAMB., F.R.C.S. ENG.,
TEMPORARY MAJOR, R.A.M.C. (T.)

THE following case is worth recording because the occurrence of acute œdema of the glottis, after a small wound of the face, has not been brought prominently before the notice of surgeons since the war began.

Private F., aged 33, was wounded by splinters of shell on Jan. 29th in the upper part of the posterior surface of each thigh and in the right side of the face. Two days later chloroform was administered, and the sloughs removed from the, relatively speaking, small wounds of the thighs. The anæsthetic was administered without any difficulty and the operation lasted 30 minutes. The wound of the face had scabbed over, and in fact the condition in this respect looked so insignificant that it was nearly left alone. On removing the scab a small piece of metal was felt and removed. It was about three-sixteenths of an inch square and larger than the scab. The cavity containing it was gently curetted and a tube inserted. This wound, which led to the death of the patient five days later, was situated half an inch in front of, and half an inch below the level of, the tragus of the right ear. It admitted a small curette to a depth of three-quarters of an inch. No bare bone could be felt. It contained no cloth. It did not communicate with the mouth. No bacteriological examination was made of the interior. For three days all went on satisfactorily, but on the fourth day, six days after the patient had been wounded, the right side of the face was slightly more swollen than it was on the preceding day and a fomentation was applied. In the evening the swelling showed also in the neck and the temperature rose to 102° F. On the morning of the seventh day after the patient had been wounded there was marked œdema of the eyelids on the right side and the patient complained of pain in swallowing. On examination the fauces were seen to be congested and slightly swollen, especially on the right side. At this stage it did not occur to us to examine the larynx; the matter looked simple enough, the swelling of the face and neck being due to insufficient drainage from the abscess. In point of fact two of us well used to anæsthetic work had independently noticed that there was slight respiratory obstruction; both of us had discounted it as being due to the swelling pressing on the right side of the pharynx, and both of us had mentioned the fact to the anæsthetist.

Nitrous oxide gas was administered by the non-rebreathing-valve method. After six inhalations the patient became blue, the administration was stopped, the mouth was opened and the tongue drawn forwards, and two fingers inserted down to the epiglottis and separated. Hewitt's artificial airway was introduced; respiration continued, evidently with considerable obstruction, for about 30 seconds. Spasmodic inspirations followed at intervals of about 20 seconds for something like two minutes, a small amount of air entering and leaving the airway. This made me hesitate to perform laryngotomy, although if such had been done at this stage life would probably have been preserved. Liquor strychninæ m xxx. was given hypodermically in the pectoral region, the phrenics were faradised and hot cloths applied to the chest. No pulse could be felt in the wrist, but the heart was beating feebly. About five minutes from the start laryngotomy was performed and air then entered freely. Fifteen minutes from the start an incision was made into the abdomen through the upper part of the left rectus and the heart massaged bimanually, this and artificial respiration being continued for 35 minutes. The patient having shown no sign of life for half an hour they were discontinued.

Post mortem there was œdema of the fauces and glottis extending down as far as the upper border of the true vocal cords and on the right side involving also the posterior part of the true cord. The œdema was more marked on the right side than on the left and could be traced to the upper part of the right side of the soft palate near the wound. The uvula was œdematous. The rest of the organs, with the exception of the spleen, which was somewhat enlarged, were healthy and normal. The thymus was not enlarged.

It seems to me that an immediate laryngotomy following on the onset of obstruction to breathing would have saved

this patient's life for the time being, and that it was the only course to have adopted. Laryngotomy is undoubtedly the operation of choice in such a case, for one only requires for its performance a knife and a pair of sharp-pointed scissors, or even a knife alone. The operation seldom takes longer than 20 seconds to perform. The method of drawing forward the skin and transfixing it transversely with the knife, whereby the vessels on the crico-thyroid membrane are left behind uninjured, deserves to be more widely known than it is. The membrane being perforated with the points of the scissors and their blades being then separated the vessels are pressed to each side and hæmorrhage is reduced to a minimum. In the case of a patient with a short, thick, congested neck, for instance a child who has tried to drink hot water from a kettle, this absence of bleeding is a great help. In the case referred to it is probable that laryngotomy would have been needed in a short space of time whether an anæsthetic had been given or not, in fact, the next time that the patient fell asleep.

Particular attention should be drawn to the danger of the onset of œdema of the glottis following a wound in the parotid region. Such œdema is well known to occur in cases of facial anthrax, especially when the pustule is situated near the angle of the jaw, and in cases of wounds of the mucous membrane, notably after extraction of an impacted and septic wisdom-tooth. Not having access at the present time to the literature of the subject I cannot state the relative frequency of its occurrence in these conditions.

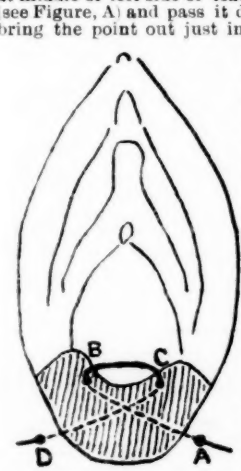
The proposed operation which was the immediate precursor of death could have been efficiently and quickly performed without any anæsthetic, but this would have been a painful proceeding.

METHOD OF SUTURING RUPTURED PERINEUM.

BY W. H. BISHOP, M.B., B.S. DURH.

I HAVE long been dissatisfied with the ordinary method of dealing with the perineum when ruptured during labour. The following plan is probably not new, but I have never seen or heard it described, nor have I met with anyone who has used it.

I use a handled needle, such as Spencer's, or Liston's No. 3 (which is excellent), enter it unthreaded through the skin at middle of left side of tear and about ¼ inch from its edge (see Figure, A) and pass it diagonally across the wound and bring the point out just inside the mucous membrane at centre of vaginal wound (B). It is then threaded and withdrawn and drawn off the suture, leaving this projecting from A and B. I now enter it on the other side in a precisely similar manner (at D), using my left hand, and bring it out at point C. The loose end of the suture hanging from B is now threaded and drawn through, making a figure-of-eight loop when the suture is tied. The vaginal loop is first drawn tight and the ends are tied over the skin. Examining now, the perineum is found to be firmly restored, and this can be further demonstrated by leaving the placenta unexpressed till this stage, when it can be so removed without any opening of the wound or forcing of blood through it. Should the tear extend into the rectum a precisely similar suture could be employed posteriorly, but I have not had the opportunity of using it. I consider it better to bury the suture completely, but it can be made to emerge as it crosses the bottom of the wound if preferred, as in the later operation for the repair of an unhealed rupture.



The shaded portion indicates the rupture.

I use catgut No. 3 for the suture. But silkworm-gut could be used and the difficulty of removal overcome by piercing the mucous membrane in the same way as the skin and so leaving the suture exposed in the vagina, great care being necessary to avoid inverting the mucous membrane when tying. This would be divided and withdrawn preferably 24 hours later. The absorbable material is to be preferred, and there are plenty of reliable brands on the market, and many reliable ways of efficiently sterilising it for oneself.

Reviews and Notices of Books.

BOOKS ABOUT THE WAR.

IT is pathetic that many of the books now appearing, and dealing with different phases of the war, should be occupied with the descriptions of the care of the wounded; in a rough way this is an indication of the terrible loss of life and health that the war now means to us, and of the very general way in which these tragedies are distributed through all ranks of our society.

Wounded and a Prisoner of War. By AN EXCHANGED OFFICER. London and Edinburgh: William Blackwood and Sons. 1916 Pp. 316. 5*s*.—This is a narrative of the experiences of an officer who reached France in the second week in August, 1914, fought in the front trench at Mons, was wounded and taken prisoner at Caudry, was nursed back to life by French doctors and nurses at Cambrai—already, of course, in German possession—was sent to Würzburg as a prisoner at the beginning of the following year, and was finally remitted to England in exchange for a German prisoner. It is a studiously simple story and gains in vividness thereby; the odious inhumanity of the Germans to our prisoners, their cowardly desertion of the sick in the prisoners' camps, their brutality to the wretched inhabitants of the occupied towns all emerge as convincing facts from this unpretentious tale.——From the same publishers is issued *The Tale of a Casualty Clearing Station* (pp. 306, 5*s*. net), by A ROYAL FIELD LEECH, a neatly informatory account of a Lospital unit, which accompanied as near the front as possible the British Expeditionary Force at the outset of war. The personnel, with outfit "accurate to the last safety-pin," embarked at Southampton on Aug. 16th, 1914, and went to Havre and thence to Rouen by water, being the first Englishmen since the reign of Henry V. to see that stretch of the Seine from the deck of a military transport. The Mons retreat and the formation of the 1915 front, and the advance on Neuve Chapelle are the sections of the war described, and always described from the point of view of a casualty clearing station. This book is a pleasant and practical note for the medical history of the war.

A Doctor's Diary in Damaraland. By H. F. B. WALKER, M.D., late Captain, R.A.M.C. London: Edward Arnold. 1917. Pp. 207. 7*s*. 6*d*. net.—This is the story of a mounted Brigade Field Ambulance which accompanied General Botha's force into Damaraland early in 1915. Dr. Walker has an observant eye and a skilled pen, and the value of his book lies not in his description of military events—it was his usual rôle to be toiling a long way in the rear of his brigade—but in his attention to the geographical details, which influenced so strongly an extraordinary campaign. Neither the text nor the pictures make the late German colony a very pleasant place, and life in either Swakopmund, Windhuk, or Lüderitzbucht must have been bereft of every amenity.

The prevailing note of Captain Viaud's book (*War*. By PIERRE LOTI. Translated from the French by MARJORIE LAURIE. London: T. Werner Laurie. 1917. Pp. 228. 2*s*. 6*d*. net) is one of horror at German barbarity and sympathy with its tortured victims. Loti's style comes out even in translation, suggesting that the rendering of Miss Laurie is a faithful one; and this series of pictures, which bear dates between August, 1914, and April, 1916, has all the clearness and sentimental grace expected from the author of "Aziyadé" and "Madame Chrysanthème." By the side of such passages as the description of Rheims and of the exploits of the French Naval Brigade the denunciations of the Kaiser read fustian. But Loti is known to be a good hater. In those days when France and England were on the edge of mutual misunderstanding he wrote a book about India without mentioning England, and this was not meant as a compliment to us. We are reminded of this fact by Madame Alexinsky's interesting account of Russian medical organisation in the early days of the war (*With the Russian Wounded*. By Madame TATIANA ALEXINSKY. London: T. Fisher Unwin. 1917. Pp. 180. 2*s*. 6*d*.). The total omission of reference to the British share in the war has been due to the natural fact that the Russian general population can never mention in conversation a country of which they know nothing. In this connexion her husband, in a prefatory note, makes this witty comment: "Russia is an Elephant, while England is a Whale, so that they have few opportunities of meeting and making each other's acquaintance.

But now that the British Whale has made itself feet of steel and is using them to surmount the blood-stained heights of the Somme ..... you may be sure our people will appreciate our noble Ally." Madame Alexinsky's letters describe the passage of a huge hospital train, wherein she had charge of six *tieploushkas* (wagons improvised to carry tiers of cot cases), full of seriously wounded cases, up and down Russia, between the actual trenches, as at the river San, to Petrograd, Moscow, Brest-Litovsk, Warsaw, and Smolensk, and the incidents are depicted with obvious sincerity. They bring before us in striking manner intimate phases of Russian life during the war, and the sufferings and strenuous determination of the country at large to fight to a finish against German tyranny. The book ends sadly with the beginning of the great Russian retreat, but Madame Alexinsky, a prominent Socialist, will find in the recent revolution in her country grounds for hope that the tide of success will soon flow westward.

An accurate impression of life under the hospital organisation which has sprung into such colossal being during the past two years is given in *The Wards in War Time* by A RED CROSS PRO. (London and Edinburgh: William Blackwood and Sons. 1916. Pp. 343. 5*s*. net.) The book is divided into two parts, the first, and, of course, far the longer, dealing with the military hospital proper, and the second with the auxiliary hospital; in both the routine is displayed to us very clearly with many humorous and discriminating character sketches of a hospital population from top to bottom. "Red Cross Pro" has just the equipment and temperament as a writer to do artistically the task he has set himself; his imaginary types live, move, and have their being for our better information.——A little book with somewhat similar outlook directed towards a French hospital (*Letters from a French Hospital*. ANON. London: Constable and Co., Limited. 1917. Pp. 96. 2*s*. net) is far less ambitious. It consists of a series of letters from a niece who is nursing in France to an uncle at home in England, and many of them were not written deliberately for publication. We agree with the uncle, however, who has decided to issue them, that they merit attention, for they show in a life-like way how active many Englishwomen have been moved to be in their attempts to alleviate the sufferings of outraged France. And more, the author of the verses "La Maison de ——" is a real poet both in sentiment and technique.——*Outposts of Mercy*. By E. V. LUCAS. London: Methuen and Co. 1917. Pp. 60. 1*s*. net.—This record of a visit to the various units of the British Red Cross in Italy gives a striking account of the geographical and climatic difficulties with which the Italian army has had to contend. Mr. Lucas made a tour of the Italian front, comprising the Carso, Gorizia, and the Carnic and Julian Alps, and brief though the form may be which his evidence has taken, he proves to us at home how thoroughly our representatives abroad are upholding the national traditions for helpfulness and kindliness. The notes have a humorous as well as a graphic quality. Exactly the same may be said for Miss Spearing's record of the experiences of a V.A.D. (*From Cambridge to Camiers under the Red Cross*. By E. M. SPEARING. Cambridge: W. Heffer and Sons. 1917. Pp. 87. 2*s*. net). Miss Spearing describes how in November, 1914 the university city, already bereft of most of its undergraduates and many of its dons, began to receive wounded Belgians from the early battle fronts. A year later she was sent to Camiers, and thence to other centres in France, and at each place she has gathered reminiscences which she imparts in a charming personal style. The episodes are sometimes pathetic, sometimes funny, and sometimes both, and we feel that Miss Spearing herself lived through her experience half in tears, half in laughter, but always practical and busy.

Hospital Days. By PLATOON COMMANDER. London: T. Fisher Unwin. 1917. Pp. 188. 2*s*. 6*d*. net.—The author has already made his mark in a previous work, "With My Regiment." We thank him sincerely for his graphic testimony to the energy, utility, and self-sacrifice of the doctors at the front, the theme of the most serious chapter in a collection of good things.——*Regimental Silhouettes*, by CHARLES GRIBBLE (London: T. Werner Laurie, Limited. 1917. Pp. 88. 1*s*. net), has a title well describing its contents. The sketch of the regimental medical officer is kind but very goody goody.——Dr. Cook has a rather uncertain muse. (*The Happy Warrior and Other Poems*. By AUGUSTUS H. COOK, M.B. London: G. Bell and Sons, Limited. 1917 Pp. 85. 2*s*. net.) There are fine thoughts and poetic expressions scattered up and down his verses, and the technique is conscientious which is all the more laudable, as he has a tendency to use the lilting measures not employed by our rising school of poets. The last piece in the booklet, describing the ideal nurse, is quite happy.

Two excellent translations from the French, both of books dealing with the early phases of the war, have been recently issued. The first of these—*The Diary of a French Private, 1914-1915*. By GASTON RIOU. Translated by EDEN and CEDAR PAUL. (London: George Allen and Unwin, Limited. 1917. Pp. 315. 5*s*. net)—is an important work. M. Gaston Riou is a leader of young French thought and a devout Christian democrat, whose volume entitled "*Aux Écoutes de la France qui Vient*," has expressed to a wide audience the ideals of a group of the finest Frenchmen of the present generation. Having an intimate knowledge of German life and the German language, he received during the year's imprisonment imposed on him at Ingolstadt, despite the fact that he was a Red Cross official, valuable and intimate impressions of how the German people regard the war. He shows how the young German intellectuals, professing the same noble and sometimes religious aspirations as his own school of thought, fell willing victims to Prussian schemes of national aggrandisement, even though their loathing for the political system, which vested autocracy in illiberal leaders, might be expressed in language as uncompromising as any that a Russian patriot could employ. This simple record of the life of a war prisoner in Bavaria is a work of art, so convincingly are the details of a terrible monotony infused with high thinking and brought out by admirable writing, and so glowing is the love of France that burns in the writer's soul.——*Battles and Bivouacs: A French Soldier's Note-book*. By JACQUES ROUJON. Translated by FRED ROTHWELL. London: George Allen and Unwin, Limited. 1917. Pp. 256. 5*s*. net.—This book is also well worth reading. It gives the impression of a totally different young Frenchman, a brave unheeding simple soldier, caring nothing for ultimate causes and determined only to fight, suffer, and die for France. M. Riou and M. Roujon have little in common save their patriotism, but by that link alone they must love one another. This recital of the first six months of warfare demands attention by the vivid and minute way in which it describes the sensations of a young soldier and the episodes in a life of furious fighting.

We include in the literature of war such pamphlets as Mr. Lansbury's moving call to the nation to deal with labour questions on Christian principles, and Mr. Ashbee's exposition of the views of the United States on the questions of national armaments and industrial ethics (*The American League to Enforce Peace, an English Interpretation*. By C. R. ASHBEE. 1917. Pp. 92. 2*s*. 6*d*. net, and *Your Part in Poverty*. By GEORGE LANSBURY. 1917. Pp. 126. 1*s*. net. Both London: George Allen and Unwin), for in each case the social conditions brought about or accentuated by the war are under consideration, and the intention of the writers is to urge the world to ensure a general amelioration of them. Both writers are speaking for industrial democracy in the same spirit, and with the same faith in the good sense of the people at large. There is nothing medical about the arguments put forward by either, but sincerely humanitarian ideals will always have the support of the majority of medical men, to whom the miseries and muddles of social life are necessarily revealed with particular clearness.

JOURNALS AND MAGAZINES.

Archives Médicales Belges. Editorial Committee: MM. Brachet, Debaisieux, de Marneffe, Denhaene, Depage, Derache, Gaudy, Hainaut, Henrard, Labasse, Maistriau, Nolf, Renaux, and Willems; Secretaries: M. Stassen and J. Voncken. Seventieth year. Nos. 1, 2, and 3, January, February, and March, 1917. Pp. 1-288. Price, annually, non-occupied Belgium and France, 16 fr.; abroad, 18 fr.; monthly number, 1 fr. 50; Paris: Librairie J. B. Baillière et Fils, 19, Rue Hautefeuille.—The publication of this monthly journal has been resumed after two years' abeyance owing to the war. The journal is open not only to communications dealing with war medicine and surgery but to all medical, scientific, and social work. With reference to social work, the editorial committee's programme contains the following words: "La médecine sociale n'occupait pas encore en Belgique la place qui lui était due; le retour au temps de paix montrera combien elle était indispensable et combien les réformes qu'elle suscitera aménéront un mieux-être de notre peuple."—The January number contains articles by Dr. P.

Derache on Wounds of the Knee-joint from Projectiles; by Dr. E. Renaux on the Malarial Fever of Flanders; and by Dr. René Sand on Social Medicine in England. Following these comes a résumé of the lesions of peripheral nerves in the war and reviews of European and American medical and scientific journals, concluding with a short account of the origin and position of the Belgian Doctors' and Pharmacists' Relief Fund.—The February number contains articles by Dr. P. Nolf on Injections of Peptone in the Treatment of Typhoid Fever and other infectious conditions; Dr. L. Wilmaers and Dr. Renaux on 47 cases of Ictero-Hæmorrhagic Spirochætosis; and Dr. Henrard on Localisation of Foreign Bodies, with numerous diagrams.—In the March number Dr. Stassen discusses the professional re-education of those mutilated by the war. We congratulate the promoters on the resuscitation of the archives.

Journal of Anatomy.—Part II. of this reorganised periodical fulfils in every way the expectations that have been formed for the future of the organ of the Anatomical Society. The papers published in this issue cover a wide range of anatomical subjects, deal with problems of sufficient importance to render them permanently valuable, and have entailed in their composition more research than is involved in the mere recording of a dissecting-room anomaly.—A timely contribution is that by Professor M. Boule and Professor R. Anthony, which deals with the interpretation of the endocranial casts of fossil man. The authors give sound reasons for supposing that those who have discarded such interpretations as highly speculative and fallacious have gone a good deal too far; and they adopt the logical standpoint that positive evidence, when it is available, should not be discredited because in other cases positive evidence is not to be obtained. No form of investigation should be neglected in the study of the fragmentary remains of earliest man, and to disparage research, because in some cases that research can only produce negative results, is poor service to science.—A paper which contains a valuable summary of the condition of the branchial arteries in reptiles is that by Dr. Charles H. O'Donoghue, and the utility of the contribution is enhanced by the timely effort made to define rigidly that channel to which the term "ductus Botalli" is rightly applied.—Professor T. H. Bryce and Dr. Matthew Young give the detailed results of their observations on metopism. The work was carried out on a long series of West Scottish skulls preserved in the anatomical department of the University of Glasgow, and the findings furnish a valuable and permanent contribution to the literature of physical anthropology.—The same may be said of Dr. W. L. H. Duckworth's notes on measurements made on subjects in the dissecting-room. The author attempts to correlate head measurements and skull measurements, a research which might well be carried on in other anatomical departments.—Dr. R. H. Robbins contributes a paper on the human pisiform; the study constitutes a preliminary to a more extended communication on the comparative anatomy of this bone.—Another paper is added by Professor F. Wood Jones to the series dealing with the comparative anatomy of the genitalia; in the present communication the reproductive system of the tree shrew (*Tupaia*) is described and illustrated.—Two papers which hold rich possibilities of useful surgical application are those by Mr. V. Zachary Cope on the sphenoidal air sinus, and Mr. Alwyne T. Compton on the intrinsic anatomy of the sciatic nerve trunk.

The *Cornhill Magazine* for May contains, in an article by Mr. Lewis R. Freeman, on the work of the British Red Cross and Order of St. John, Italy, an amazing story of resourcefulness on the part of an ambulance driver:—

> One of the voluntary drivers was bringing down, over an especially difficult piece of road, an ambulance full of wounded from a lofty sector of the Alpine front, when he encountered a soldier in a desperate condition from a gaping bullet-wound in the throat. "Realising that the man was in imminent danger of bleeding to death, the driver lifted the inert body to his seat, propping it up the best he could next to where he sat behind his steering-wheel. Driving with his right hand, while with a finger of his left he maintained a firm pressure on the severed carotid artery, he steered his ambulance down the slippery, winding mountain road to the clearing station at the foot of the pass. The laconic comment of the astonished, but highly pleased Italian doctor on the incident was direct but comprehensive. "Well, young man," he said, as he took hasty measures further to staunch the gushes of blood, "you've saved his life, but in five minutes more you would have throttled him."

Owing to the amalgamation of the famous publishing house of Smith, Elder, and Co. with the no less famous house of John Murray the *Cornhill Magazine* has been transferred to the latter firm.

Reports and Analytical Records
FROM
THE LANCET LABORATORY.

CRYOGENINE (LUMIÈRE).

(THE ANGLO-FRENCH DRUG COMPANY, LIMITED, GAMAGE BUILDING, HOLBORN, LONDON, E.C.)

AS an antipyretic and analgesic cryogenine has been known for some time, but now that certain restrictions have been placed on the supply of phenacetin further attention to its therapeutic properties may be given. Chemically it is a benzoic acid derivative and is known as meta-benzamido-semicarbazide. It is a white crystalline powder freely soluble in ether, chloroform, and benzene, and to the extent of about 1 per cent. in water at 20° C. It has a marked reducing action which is strikingly shown with Fehling's solution. The blue colour is reduced in the cold to green, and on heating the fluid a rapid reduction to red cuprous oxide occurs. This reaction readily enables the detection of the drug when it is eliminated in a non-diabetic or non-glycosuric urine. Clinical experiments are quoted showing its value in reducing pyrexia and in diminishing pain, particularly in neuralgia and rheumatism. These effects are said to be unattended with secondary phenomena. Its administration leads to a strong yellow tint in the urine not referable to biliary pigment, but due to oxidation of the drug itself.

VAPOROLE CHLOROFORM.

(BURROUGHS, WELLCOME, AND CO., SNOW-HILL BUILDINGS, LONDON, E.C.)

These vaporoles, each containing 3 minims of chloroform, may well serve a useful purpose. The chloroform is contained in a thin glass tube wrapped in wool and an outer case of gauze. The tube is easily crushed by pressure between the thumb and finger and chloroform vapour so liberated. The suggestion, for one thing, is that the vapour in this way can be used for the relief of earache (not to be used in suppurating cases). To this end the capsule is broken and placed in a small vessel, such as an egg-cup, which is then held close to the affected ear. It may also be used when inhalation of a small quantity of chloroform vapour affords temporary relief in asthma or croup. This small measurement of chloroform renders its use safe.

TOILET SOAPS.

(PRICE'S PATENT CANDLE CO., LIMITED, BATTERSEA, LONDON, S.W.)

We have examined two specimens of toilet soap recently introduced by this well-known firm under the names respectively of "White Clover" and "Santal." Both proved to be perfectly neutral soaps, giving no evidence whatever of the presence of free alkali. There were, in fact, no extraneous ingredients found at all except perfume, which in the one case ("white clover") was of a light, agreeable, "grassy" character, and in the other ("santal") a heavier perfume of oriental style. The moisture in the former was 10·6 per cent. and the combined alkali 9·3 per cent. (Na_2O); in the latter the moisture was 9·1 per cent. and the combined alkali 9·5 per cent. (Na_2O). Both specimens gave a pleasant and economical lather, perfectly smooth and cleansing to the skin.

BLENOSAN CAPSULES.

(ROBERT FERBER AND CO., 98–104, OAKLEY-STREET, WESTMINSTER BRIDGE-ROAD, LONDON, S.E.)

This combination of the essential resins of kava-kava, the root of *Piper methysticum*, with santal-wood oil is said to be serviceable in relieving pain and the constant desire to micturate in gonorrhœa. Kava-kava is referred to as possessing an anæsthetic action on the urinary passage, and an anaphrodisiac. Blenosan is a clear greenish oil in which the resin of kava-kava is dissolved in santal oil. It is interesting to note that a beverage is made from kava-kava which produces a mild drowsiness in the consumer.

LIQUEUR RUM (MEDICAL RESERVE).

(H. N. GILBEY, 15, 17, 17A, CHARLOTTE-STREET, TOTTENHAM COURT-ROAD, LONDON, W.)

Genuine rum is sharply distinguished from all other ardent spirits by containing a considerably larger amount of volatile ethers. They are probably formed during fermentation by the action of the acids in the sugar on the alcohols. There can

be little doubt that on this account rum is a more rapid and powerful stimulant than the other spirits, and possibly this may be a reason for retaining it for the use, under supervision, of the military and naval services. The analysis of the specimen described above gave the following results:—Alcohol by volume, 40·14 per cent. (equal to 30° under proof); extractives, 0·41 per cent.; mineral matter, 0·15 per cent. The secondary products given in parts per 100,000 parts of alcohol present were as follows: Volatile acidity reckoned as acetic acid, 75·0; ethers, 176; aldehyde, 12·5; furfural, 2·5; higher alcohols, 125. These figures are quite in accordance with those yielded by a genuine old mature rum. The spirit possessed the peculiar characteristics in regard to aroma and taste of genuine rum, and was "round" and smooth to the palate. The ethers occur to about twice the quantity found in genuine Cognac brandy, but show some reduction owing to the dilution now required by the State to a maximum alcoholic strength of 30° below proof.

THE BELGIAN DOCTORS' AND PHARMACISTS' RELIEF FUND.

SUBSCRIPTIONS.

THE following additional subscriptions to the Fund have been received:—

	£	s.	d.
Dr. Burrowes	1	1	0
Royal College of Physicians of Edinburgh, for the North British Branch of Pharmaceutical Society of Great Britain (per Dr. Norman Walker)—			
Subscriptions in hand, April, 1915	0	15	0
Dr. James Caskie	1	1	0
Mr. R. Hay	0	10	6
Mr. H. Dryerre	1	1	0
Edinburgh District Chemists' Trade Association (per Mr. A. A. Murray)	2	2	0
Mr. W. G. Johnstone	1	1	0
Mr. J. S. B. Heddle	0	10	0
Mr. Alex. Inglis	0	10	0
Dr. G. D. H. Carpenter (24th donation—total £24)	1	0	0

Subscriptions to the Fund should be sent to the treasurer of the Fund, Dr. H. A. Des Vœux, at 14, Buckingham Gate, London, S.W., and should be made payable to the Belgian Doctors' and Pharmacists' Relief Fund crossed Lloyds Bank, Limited.

THE APPEAL FOR SURGICAL INSTRUMENTS.

Surgical instruments should be sent to the Master of the Society of Apothecaries, Apothecaries' Hall, Blackfriars, E.C.

KING EDWARD'S HOSPITAL FUND FOR LONDON.

THE annual meeting of the Governors and General Council of King Edward's Hospital Fund for London, to receive the accounts and the report of the General Council for the year 1916, was held at St. James's Palace on April 27th, the Duke of TECK being in the chair.

Lord REVELSTOKE, honorary treasurer, in presenting the account of receipts and expenditure and the balance-sheet for the year ending Dec. 31st, 1916, said that the Fund had received support enabling it to put a substantial addition to reserve. This addition, which amounted to no less than £143,000, was due mainly to the receipt of £137,000 on account of the residue of the estate of the late Lady Wilton. Since the end of the year a further sum has been received, raising the total of the bequest to £163,000. The net loss on the realisation of investments shown in the balance-sheet was due to a sale of the Fund's holding of American securities, which the Finance Committee had considered it their duty to make in response to the invitation from H.M. Treasury, and the re-investment of the proceeds in British Government securities.

The SPEAKER of the House of Commons moved the adoption of the accounts, which was seconded by Viscount SANDHURST and carried unanimously.

Mr. JOHN G. GRIFFITHS, honorary secretary, presented the draft report of the Council for the year 1916, of which the following is a summary:—

The total receipts for the year 1916 were £326,474 3s. 9d., of which £9447 15s. 5d. were contributions to capital, and £317,026 8s. 4d. receipts on general account, the general fund receipts being made up as follows: Annual subscriptions, £25,403 3s. 6d.; donations, £5837 1s. 5d.; contribution from League of Mercy, £15,000; from the estate of Isabella Countess of Wilton, £137,634 18s. 11d.; from the Lewis estate, £3000; other legacies, £33,418 7s. 8d.; dividends and interest from investments, £96,532 16s. 10d.; from the Trustees of the Bawden Fund, £200. The amount distributed was £170,000, which was £30,000 more than the amount applied to this purpose in 1915, and £12,500 more than the previous maximum appropriation before the war. Of the amount distributed £162,500 were allocated to London hospitals and £7500 to consumption sanatoria and convalescent homes taking London patients, as against £133,500 and £6500 respectively in 1915. Of the £162,500 granted by the Fund to the London hospitals, £128,425 were given in aid of general maintenance, £15,000 to the reduction of debts on maintenance account, and £19,075 toward improvement schemes or in reduction of liabilities on such schemes undertaken before the war. The Fund had continued to encourage the hospitals in the policy of postponing all schemes of capital expenditure not exceptionally urgent or not already in hand at the outbreak of war, and the total grants in aid of new schemes were only £6525. The increase in grants for maintenance over those made in 1915 amounted to £25,900. This large addition to the grants was, however, by no means in excess of the needs of the hospitals. The total sum distributed amongst hospitals, convalescent homes, and consumption sanatoria during the last ten years (after deducting conditional grants to the extent of £5500 that had been allowed to lapse) was £1,544,750. Since the foundation of the Fund a total amount of £2,268,416 had been distributed. The average annual distribution for the whole period of 20 years had been £113,420 16s. 5d. During the year the amount spent on administration was £3161 2s. 3d., or 19s. 4½d. per £100 of the total amount received, as compared with £3205 16s. 1d., or £1 8s. 3d. per £100, last year. The corresponding percentage for the whole period since the inauguration of the Fund had been £1 4s. 3d., or less than 3d. in every £1 received, the average yearly outlay in this respect being £2836 2s. 8d. The League of Mercy this year had contributed £15,000, a larger sum than was received from the League in any of the last three years. The total amount contributed to the Fund by the League of Mercy since its foundation in 1899 now amounted to £245,000, apart from the sums awarded by the League to institutions outside the area of the Fund's distributions. The legacies received during the year included, in addition to the bequest of the late Isabella Countess of Wilton and a further amount of £3000 from the Lewis bequest, £20,193 19s. 5d. from the late Lady Brownlow, widow of Field-Marshal Sir Charles Brownlow; £10,000 given by the executors of the late Mr. Thomas Stephen Whitaker in the exercise of their discretionary powers; and £5000 to capital from the late Rt. Hon. Sir Andrew Richard Scoble.

Viscount IVEAGH moved the adoption of the report, which was seconded by Viscount KNUTSFORD and carried unanimously.

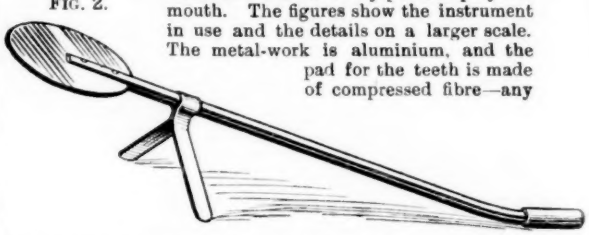
New Inventions.

AN INSTRUMENT TO ENABLE ARMLESS MEN TO TURN OVER THE LEAVES OF BOOKS.

ONE of the great difficulties with which men who have lost both hands have to contend, is turning over the leaves of books they may be reading. With the aid of Captain C. G. M. Hatfield of the 18th Middlesex, and Mr. Barker of the Engineering Laboratory, I have devised a small instrument, one end of which is held between the teeth and the other—which is provided with an indiarubber cap—is pressed against the leaf and with a little practice the leaf can be readily turned over. The instrument is raised on two diverging feet so that one end is lifted off the level of the table and can be easily picked up by the mouth. The figures show the instrument in use and the details on a larger scale. The metal-work is aluminium, and the pad for the teeth is made of compressed fibre—any kind of rubber seems to serve the required purpose. The instrument may be obtained of Messrs. S. Maw, Son, and Sons, 7-12, Aldersgate-street, London, E.C. 1. Price 3s. each.

FIG. 1.

FIG. 2.



Christ's College Lodge, Cambridge. A. E. SHIPLEY.

THE LANCET.

LONDON: SATURDAY, MAY 19, 1917.

The Supply of Medical Officers for the Army: Civil and Military Medical Needs.

THE supply of medical officers for the Army has been kept up by the Central Medical War Committee, the Committee of Reference of the English Royal Colleges, and the Scottish Medical Service Emergency Committee, in accordance with the demands of the War Office, and it has been possible to accomplish this by strenuous work on the part of the Executives of those three bodies, in coöperation with Local Medical War Committees which in some districts have worked with great energy and discrimination. The result, moreover, reflects a real desire on the part of the medical profession as a whole to help their country in its need or the efforts of the Committees would have failed in their object. Without going into the exact figures, which would have no particular meaning unless they were considered in connexion with figures which alter from time to time in accordance with the military situation, as well as with the general statistics of the medical profession, we may say that last week the War Office required 250 additional medical officers by a certain date, and that 234 of them were found within two days of that date. Those who know how firmly in many areas the claims of the civilian population have been pressed, and how scrupulously the right or fairness of exemption has been tested in the cases of appeal, must agree that the results of a system based on a voluntary principle, and still working in the thirty-third month of the war, are creditable to the patriotism of medical men as a section of the community.

There is no doubt, however, that the Committees entrusted by statute with the duty of recruiting the members of the medical profession for military services have nearly come to the end of their resources. This has been signified quite plainly to the War Office during the last few days, and must have been common knowledge to the medical profession as a whole, for the local efforts to spare practitioners and to fill the gaps created become more and more strenuous as time goes on and as the War Office needs remain unsatisfied. There are certain areas from which only incomplete returns have been made as yet to the Central Medical War Committee, and there are medical men about whose arrangements the Local Medical Committees are doubtful, and other medical men who, according to these Committees, cannot be spared unless the principle of substitution is put in hand in some large and general way. From these sources a certain number of medical men can still be obtained whose age and qualification are quite in keeping with their acceptance of commissions, but it must not be forgotten that a proportion of these men will certainly be rejected on physical grounds, and it may be that some who still are calculated in the returns as potential officers have already failed to come up to the physical standard. It is also believed that, depleted as the ranks of the men holding whole-time appointments may be, a further contribution can be obtained from them, and in this direction the substitution of women doctors, which has already proved so helpful, may be open to extension. Comprehensive estimation of the whole supply at the disposal of the three Committees shows, therefore, that the material remaining is capable of yielding only a very small number of men, and that the civilian public is already putting up with a marked shortage. This suggests inevitably that unless some difference is made in the methods of employment of the medical men when they have received commissions, some method, that is, which would enable economy to be effected, the public will have to ration itself as rigidly with regard to the ministrations of medicine as they have to with regard to cereal foods. Unfortunately, any real dearth of medical service in a country has a more lasting and worse effect on a population than a period of scarcity of food, for the latter, when remedied, is found to leave a far less lasting effect. The machinery for the distribution of food remains intact and soon returns to normal working, but the machinery for the maintenance of national health cannot be laid aside and suddenly resumed. This being so, it is obvious that we must look anxiously on all sides for economical plans in the employment of our medical personnel. Already most civilian communities are working their hardest to dispense with unnecessary medical aid, and every civilian hospital does, in addition to its ordinary medical work, extraordinary work of a military nature, performing the increased duties with a decreased personnel. Already the medical administration of many public authorities is shorthanded, and, magnificent as the substitution work of the recently qualified women who have taken men's places has been, there is no doubt that much valuable preventive and sanitary organisation has been arrested in its development. Therefore, it is inevitable that we should find the eyes of many fixed on the Army, with the question on their lips whether th military needs cannot in any way be made less by some reforms in the employment of the medical material already supplied.

We have in these columns pointed out over and over again, in reply to ill-considered criticisms of the medical administration of the Army, that local must not be taken as an indication of general conditions. Time after time we have had communications from correspondents saying that at a certain time in a certain place there appeared to be a certain number of medical officers whose work was very light, and that if this was the state of affairs which prevailed throughout the Army, there could be no wonder at a position of shortage being quickly reached. For these critics

the conditions of training and the periods of transition had no being; they saw what lay beneath their eyes and failed to imagine that a supply of medical men can only be forthcoming at a desired spot without delay by placing them more or less in communication with that spot some time beforehand. We would not say that none of these critics was ever right, but it remains a fact that their general message was incorrect. Now, however, the position is somewhat altered. We have been at war for a long time, and the scope of our military activities is far better defined than it was during 1915 and 1916. We occupy a different attitude towards our powerful enemies, the initiative, generally speaking, is with us, our needs can be forecast, and there is not the same necessity to keep idle, against an unexpected demand or a rapidly projected expedition, large medical personnel. Whereas in the early days of the war it was absolutely necessary to leave to the War Office the right to ask whatever men they required from the medical profession, the circumstances are now modified, if only by the response already made by the profession to the War Office. For it must be remembered that some of the best civilian medical brains have been obtained by the Army from the earliest days of the war and a proportion of these officers have been engaged in the work of medical organisation for over two years. They possess what are of necessity largely denied to the regular members of the Royal Army Medical Corps—namely, a knowledge of the conditions of the civilian medical life and a familiarity with the civilian needs. We feel that the inclusion of these men in the Royal Army Medical Corps should make it quite easy for the military authorities to enter into intelligent conference with civilian medicine, and that from such a laying together of heads solid good would be derived. Such matters as the staffing of Voluntary Aid Division hospitals and the employment of medical men in part-time military posts could, we believe, be settled with a real saving of *materiel* by a conference between people equally alive to military and civilian needs.

The Vital Statistics for the First Year of War.

THERE is not yet a Ministry of Health, although in receiving a deputation on infant welfare last week Lord RHONDDA said he was becoming more and more convinced of the need for one, adding a hope that the Ministry, when created, would be largely based on the present Local Government Board. One substantial ground for this need is given by the figures of Sir BERNARD MALLET, the Registrar-General, who has recently issued his report for the year 1915.[1] This report, although dealing with matters 18 months distant, gives information to our profession that has not appeared in any document previously issued from Somerset House. We limit our comments in the main to the salient vital statistics of the year, because the facts of natality and mortality for 1915 have already appeared in the Annual Summary issued in March of the following year. In that publication, however, the facts were derived from returns furnished by the local registrars, whereas the statistics for this report are compiled from the statutory registers and are analysed in considerable detail by experts in the central office.

From the Statistical Section of the Registrar-General's report we learn that the marriage-rate for 1915 was the highest on record; it was equal to 19·5 per 1000 living, and exceeded the average rate in the ten preceding years by 4·1 per 1000. The birth-rate, 22·0 per 1000, was the lowest hitherto recorded, and was in defect of the decennial average by 3·5 per 1000. Nevertheless, the fall in the English birth-rate in the year under notice compares favourably with the experience of other belligerent countries. The civilian death-rate was 15·7 per 1000, and although 1·2 above the average in recent years for the whole population, was yet below this rate in any year before 1903. The rate among civilians is adversely affected (*a*) by the withdrawal for service abroad of a large body of men whose mortality experience is below the average rate at the same ages, and (*b*) by the fact that the men remaining in the civil population at military ages are on the whole less healthy than those who have been withdrawn. Although the standardised mortality of 1915 exceeds the standard of the immediate past, the excess is smaller than might have been anticipated in the circumstances. Apart from the abnormally high death-rate of men of military age who have remained at home, the increase of mortality in 1915 mainly occurred in later childhood and in old age. There is still no provision for the registration of still-births, although, in view of the present dangers to child life, the vital importance of this information was emphasised in 1904 in the report of the Committee on Physical Deterioration. Of the total deaths registered in 1915 in England and Wales almost 16 per cent. were those of infants under the age of one year, corresponding to a mortality of 110 per 1000 births. The immediate chances of survival differ but little at birth in the towns as compared with the country, but the noxious influences of town life speedily appear and make themselves felt increasingly as the first year of life progresses, and to a still greater extent in the second and third years, when the urban excess generally approaches 100 per cent. The fact has, however, been recently brought out by Sir ARTHUR NEWSHOLME in a report on child mortality that the relatively low death-rate in rural districts is attainable under urban conditions by enlightened administrative measures. The mortality during 1915 of illegitimate infants was about twice as high as that of children born in wedlock. Among male infants the excess was highest at ages from one to three months, and among females at ages from three to six months. The mortality of illegitimate infants exceeds that of legitimate infants, more particularly in the case of deaths attributed to syphilis, which are nearly eight times as many. Probably ther is less reluctance to

[1] Seventy-eighth Annual Report of the Registrar-General.

certify the true cause of death in the case of these infants, but the difference is greater than can be explained in this way. Before leaving the subject of infantile mortality it is only fair to point out that the figures given in the returns of medical officers of health for 1916 are almost uniformly lower, in some cases much lower, than those for 1915, and this fall is of particularly good omen, having regard to the circumstances of war in the midst of which it occurred.

Except in the case of scarlet fever, enteric fever, and diarrhœal diseases, most of the principal causes of death showed increased mortality in 1915 as compared with the previous year. The death-rate from enteric fever was the lowest on record, but influenza was more fatal than in any year since 1900, and measles was exceptionally destructive to child life. Another special feature in the year's mortality is the abnormally high death-rate from cerebro-spinal fever, consequent upon the first outbreak in recent years of this very fatal disease. The figures for 1916 and those at present available for 1917 show that this high mortality has not been maintained, especially in regard to the civil population. The mortality atributed to diphtheria and croup in 1915 was practically the same as that of the preceding year, and the rate of both years was heavier than at any time since 1908. In each of the last five years the county boroughs of Northampton and Stoke-on-Trent experienced a diphtheria mortality in excess of that for England and Wales. This fact confirms the statement emphasised in previous reports, that in the tendency to recurrence of high mortality in successive years in the same area diphtheria resembles enteric fever and scarlet fever. The mortality from pulmonary tuberculosis showed a marked increase among males and a slight increase among females, but it must be remembered that the rates for 1915 relate exclusively to the civil population and that enlistment has withdrawn a very large number of healthy males at ages considerably affected by the incidence of tuberculosis. Judged by the ordinary or crude death-rates in 1915, a higher mortality than in any other year was caused by malignant disease, but, in view of the present abnormal constitution of the civilian population, this form of statement is misleading in dealing with such a disease as cancer. When these death-rates are standardised, as they should always be, comparison shows that the mortality of both males and females from this disease was slightly below that of either of the two preceding years. Taken as a whole, and seen in the light of later experience, Sir BERNARD MALLET'S report is an important and vastly interesting chronicle of the first completed year of the war in its effect on the nation's health. The appearance of the report for 1916 will be awaited with impatience, tempered by the fact that a rough comparison is already available from other sources.

CENTENARIANS.—Mrs. Mary Paige died at Rochester on April 24th. She was born near Launceston, Cornwall, on Nov. 2nd, 1815.—Mrs. Mary Shittler died recently at Holwell, near Sherborne, aged 103 years.

Annotations.

"Ne quid nimis."

PUBLIC HEALTH AND THE CONTROL OF THE LIQUOR TRAFFIC.

IN his lecture delivered on Wednesday last at the Royal Institute of Public Health Lord D'Abernon, chairman of the Central Control (Liquor Traffic) Board, dwelt on the curious fact that with one trifling exception the State has hitherto never attempted to regulate the conditions of the liquor trade on grounds of public health. The protection of revenue, the safeguarding of public order, the maintenance of morals, have afforded occasion for restrictive measures, but even the Public Health Acts barely allude to the hygienic dangers of the public-house. He regards this as the more remarkable since the important part which alcohol plays in the causation of suicide and accident, in the diffusion of venereal diseases, in the mortality from many diseases not themselves due to alcohol, and in the production of infantile mortality is an old and familiar fact. Lord D'Abernon went on to show how the policy of reasoned and moderate restriction had already resulted, beyond doubt, in reducing alcoholism, as shown not only by the diminished number of convictions for drunkenness and of deaths from excessive drinking, but also by a corresponding diminution in delirium tremens, which was generally admitted to be an index of less overt forms of intemperance. The latter conclusion he based upon the figures for the cases treated in Liverpool infirmaries for three periods of 12 months each provided him by the Poor-law officials. The issue of the third report of the Central Control Board on May 7th gives the general reader also the opportunity of studying the striking figures in regard to the diminution of convictions for drunkenness in the area under the Board's control. One instance will suffice. In the four weeks immediately preceding the issue of the Control Board's Orders the weekly average of such convictions was 3956; for the same period ending March 25th the average was 1755, or less than one-half the number. Lord D'Abernon's conclusion, therefore, seems a fair one, that intemperance can be diminished in considerable degree by legislative and administrative action. Important, and almost new, as this conclusion is, there remain many problems in relation to the drink question which await solution, and we therefore welcome the appointment of an advisory committee by the Control Board which we foreshadowed in THE LANCET of July 29th last.

The composition of this technical committee was given by Mr. Kellaway, Parliamentary secretary to the Ministry of Munitions, in the House of Commons in answer to a question by Sir W. Collins, viz.: Lord D'Abernon (chairman), Sir G. Newman, Dr. A. R. Cushny, F.R.S., Dr. H. H. Dale, F.R.S., Mr. M. Greenwood, jun., Dr. W. McDougall, F.R.S., Dr. F. W. Mott, F.R.S., Dr. C. S. Sherrington, F.R.S., and Dr. W. C. Sullivan. The terms of reference are as follows: To consider the conditions affecting the physiological action of alcohol, and, more particularly, the effects on health and industrial efficiency produced by the consumption of beverages of various alcoholic strengths, with special reference to the recent Orders of the Central Control Board, and further to plan out and direct such investigations as may appear desirable, with a view to obtaining more exact data on these and cognate questions.

As Lord D'Abernon pointed out on another recent occasion, the problem of drunkenness has become

numerically a smaller one, and it should therefore be now possible to apply more specialised methods in dealing with it. We shall not be wrong in expecting from the technical committee, with its abundant scientific equipment, suggestions for methods which may well solve many of the hygienic problems of the drink question within our own time.

THE LARDER AND THE DUSTBIN.

REGULATIONS affecting the economic management of both the larder and the dustbin have recently been issued by the Local Government Board, and to these special prominence has been given by a prosecution which took place early in the week on account of bread found in the dustbin. In the case of the larder a definite order has been given conferring on local authorities and their officers the powers and duties of enforcing certain provisions set out in a schedule. The Order leaves it to the local authority to arrange as it thinks fit for enforcing these provisions. Any expenses incurred by a local authority in the execution of this Order are to be counted as work carried out under the Public Health Act, 1875, or the Public Health (London) Act, 1891, as the case may be, and defrayed accordingly.

The schedule sets forth that part of the various Orders issued in respect of which the powers and duties are conferred and imposed upon local authorities and their officers. In the cases of the Bread Order, 1917; the Swedes (Prices) Order, 1917; the Food (Conditions of Sale) Order, 1917; the Tea (Nett Weight) Order, 1917; the Public Meals Order, 1917; the Cake and Pastry Order, 1917; the Wheat, Rye, and Rice (Restriction) Order, 1917; and the Maize, Barley, and Oats (Restriction) Order, the local authorities are instructed to carry out the whole of the provisions. In the cases of the Brewers' Sugar Order; the Potatoes, 1916, Main Crop (Prices) Order (No. 2), 1917; the Price of Milk Order, 1917; the Feeding of Game Order, 1917; the Sugar (Confectionery) Order, 1917; and the Manufacture of Flour and Bread Order (No. 2), 1917, only certain clauses of the Order as regards the powers of local authorities come within their exercise.

It is to be hoped that this comprehensive Order will work smoothly, as it can only do if it receives the loyal coöperation of the householder, and is administered by the local authority with fairness and individual consideration.

The immediate removal of household refuse becomes of pressing importance now that the heat of summer has begun to assert itself, and the householder who scents danger to himself and his family from the accumulation of his own waste products should realise that here also his coöperation is essential to a proper safeguarding of the national health. The circular just issued by the Local Government Board to local councils frankly recognises the difficulties under which the removal and disposal of refuse are now carried out by local authorities, and suggests methods of facilitating their work. Householders are encouraged to sift out and burn cinders, to separate kitchen refuse from waste paper, cardboard, and like substances, and to burn either of these if not duly collected. Householders may have to be asked to place their refuse-bins where they can be emptied with least labour. The coöperation between householder and scavenger thus suggested should be undertaken cheerfully by all right-minded men and women. The labour involved will not be great, and if some of the economies resulting from it would have been looked upon as petty in days now bygone they are of real importance now. To burn cinders until they are incapable of producing further heat will help to preserve a coal-supply which is now neither ample nor cheap. Broken cardboard boxes and waste paper used to kindle fires will save wood, the scarcity of which is roughly indicated by its greatly augmented price. That fires can thus be lighted easily, especially in kitchen ranges or where there is a good draught, is probably not realised by many who still look upon "fire-lighters," which consume resin or paraffin unnecessarily, or firewood especially prepared in bundles for the purpose and used with reckless prodigality, as essential to the kindling of coal. To burn all vegetable refuse which cannot be utilised for the feeding of pigs and other domestic animals will be a matter of trouble rather than of difficulty where there are kitchen ranges heated by coal. Where this is not the case a bonfire in the garden will result in ash useful for manure. In town houses where there are no gardens, and where only gas is used in the kitchen, it will not be so easy for the private individual to get rid of organic refuse, although neat and simple gas destructors are specially made for this purpose. The town householder's duty will consist mainly in seeing that as little as possible accumulates, and that this little is kept well protected from flies and under conditions preventing it from offending his family and neighbours until it can be removed.

GENERAL HUMAN CYSTICERCUS INFECTION.

HOWEVER rare and interesting may be a case of human cysticercosis in generalised form and diagnosed during life, the clinical record of such a case would be devoid of real practical and scientific importance if it did not tend to elucidate those details of pathology and symptomatology which have remained hitherto obscure. Dr. Andrea Boccavilla, in reporting such a case (*Il Policlinico*, Medical Section, Feb. 1st, 1917), considers that it merits special consideration both in regard to the nature of the pathological condition caused by the infection, its symptomatology, and the elaboration of the diagnostic methods already known and the eventual acquisition of new ones. The symptoms of the case were instructive as a whole and in connexion with the elective seat of the parasite in man—i.e., muscles and brain. The case exhibited, besides the presence of nodules of cysticercus in the skin, the following prominent symptoms: severe general malnutrition and intense blood dyscrasia, dyspepsia and obstinate constipation and phenomena connected with the neuro-muscular system, one being striking and curious—viz., a brisk plantar cremasteric reflex. Dr. Boccavilla undertook some important serological investigations which yielded interesting results. Precipito-reaction was positive in all instances with an antigen of *Cysticercus cellulosæ*, negative with an antigen of *Cysticercus bovis*. Deviation of the complement: results strongly positive for antigens from *C. cellulosæ* in dilutions of 1 in 10, negative in controls with antigen of *Tænia inermis*. Abderhalden's test was strongly positive with an antigen of *T. solium*. A further series of experiments showed a defective absorption both of nitrogen and phosphorus. The details given of this case point to the conclusion that cysticercus infection, especially if generalised, may produce in man a condition of toxæmia with definite changes demonstrable by serological tests and marked disturbance of metabolism. Clinically the symptoms of human cysticercosis, although they may be few and ambiguous, yet in some cases

in which the tolerance of the individual to the toxæmic condition is limited, assume a character entirely *sui generis* and such as to permit, under the guidance of an accurate semeiological study, a diagnosis of great probability, even apart from any specific investigations. Hence when an individual is observed to be the subject of a severe organic toxic condition, not attributable to any special infection, and presents phenomena referable to a multiple intracranial localisation or exhibits evident signs of muscular hyperexcitability to various stimuli accompanied by intense hypokinesis, early exhaustion, irregularity of the ergographic curve, without myotonia or change in the electrical reaction, then the possible existence of a latent cerebral and muscular cysticercosis must be taken into consideration even in the absence of intestinal evidence or peripheral cutaneous nodules. The suspicion will develop into probability if clinical investigation can eliminate the presence of tuberculosis, cerebral syphilis, or idiopathic myopathy. Finally, the diagnosis of latent cysticercus infection will derive valuable aid and confirmation from the application of serological methods, especially those of the precipito-reaction, deviation of the complement, and Abderhalden's test.

THE QUEEN'S HOSPITAL FOR CHILDREN.

AT the annual meeting of governors of the Queen's Hospital for Children, Hackney-road, E., held at the Mansion House on Tuesday last, with the Lord Mayor in the chair, the work and needs of this institution were prominently brought before the public. They are matters with which the medical profession is unfortunately too familiar in regard to civilian hospitals in general. The Queen's Hospital for Children specially serves a surrounding population of at least half-a-million people, mostly of the industrial classes, of East and North-East London, also drawing patients from Tottenham, Enfield, Edmonton, Walthamstow, and Leyton. Pressure on its beds has been greatly increased of late by the military occupation of most of the infirmary beds. The Poor-law authorities are endeavouring to meet their responsibilities with regard to the civil population by carrying out an increased system of out-door medical relief, but this does not meet the case of the sick child in the homes of the poor. Several general hospitals have reduced the work of their children's departments, thus throwing additional responsibility on the special hospitals. The official number of beds at the Queen's Hospital is 134, but last year the daily average of children in the wards worked out at 139, additional cases being put in basket cradles or in extra beds. This work has been done without an increase in the nursing staff, which has remained the same with the greatly increased work. A full medical staff has been kept up by the appointment of qualified women and by temporary appointments to the visiting staff for the period of the war. The accommodation of the seaside branch at Bexhill, opened in 1911 with 30 beds, has been increased by six beds, with the use of open-air shelters throughout the year, and in this way a larger proportion of sick children brought back to robust health. The period of stay at this branch is arranged at the discretion of the medical officer, working out last year at an average of 39 days. The total figures for 1916 showed: In-patients, 2161; out-patients, 43,665; and attendances, 108,432. Expenditure in 1916 exceeded £20,000, of which £19,000 have to be raised by voluntary contributions. At the end of four months' working this year the hospital is £3000 short of the sum required to pay outstanding accounts.

COLLOSOL COCAINE AND THE DURATION OF ANÆSTHESIA.

SINCE the publication in THE LANCET of April 28th of the reports of Professor W. J. Simpson, Professor R. Tanner Hewlett, and Dr. John Eyre on the experiments made with the view of testing the toxic and anæsthetic properties of collosol cocaine, several inquiries have been made by our readers on the important point of the duration of anæsthesia, to which a further report which has reached us provides an answer:—

Test of a Fresh Sample of Collosol Cocaine (1 per cent.) delivered April 25th, 1917.

University of London, King's College, Bacteriological Department.
May 8th, 1917.

Toxicity Test, May 4th, 1917. Rabbit, weight 2050 grammes.
19·5 c.c. injected intravenously. No toxic effect whatever produced.

Anæsthesia Test.

I. ½ c.c. injected subcutaneously in rabbit at 2.36 P.M.
At 2.38 slightly insensitive at area of injection.
,, 2.39 quite insensitive ,, ,, ,,
This was maintained until 2.55.
At 3.0 sensibility returning, which continued until at 3.30 sensibility had completely returned.

II. ½ c.c. dropped in two lots (i.e., ¼ c.c. each) into eye of rabbit at interval of 3 minutes—at 2.37 and 2.40 P.M.
At 2.44 eye quite insensitive.
,, 2.47 do.
,, 2.55 do.
,, 3.0 sensation returning.
,, 3.15 sensation practically returned.

W. J. SIMPSON.
R. T. HEWLETT.

Apart from the duration of anæsthesia it is noteworthy that as much as 19·5 c.c. of a 1 per cent. solution of collosol cocaine proves to be non-toxic when intravenously injected into a rabbit. Further investigations in this interesting field are being carried out.

ANKYLOSTOMIASIS IN ASSAM.

AN interim report upon an investigation into the incidence of ankylostome infection among the coolies employed in the tea-gardens of the Darjeeling district, Assam, has been recently published by Major Clayton Lane, I.M.S., in the *Indian Journal of Medical Research*. The object of the inquiry was threefold—namely, to ascertain the amount of the infection in the locality, to free those infected from the parasites, and to find out if possible what effect the existence of ankylostomiasis had upon the general health and working efficiency of the labourer. Having secured the coöperation of the managers of the tea-gardens, Major Clayton Lane proceeded, as a preliminary measure, to rouse the interest of the native workers in the investigation by means of lectures and demonstrations, illustrated by lantern slides. This he did for the purpose of inducing the coolies to permit samples of their bowel discharges to be examined microscopically for the presence or absence of the ova of the ankylostome worm. After surmounting numerous difficulties he was ultimately successful in obtaining 11,142 samples of fæces from the workers in 10 tea-gardens, from prisoners in the local jail, from members of the local police, from children attending some schools, and from inmates of the mission homes. Of the total examined 7356, or 66 per cent., were found to be infected by the hookworm, *Necator* (or *Uncinaria*) *americanus*, which is the only variety of ankylostome worm found in the locality. It may be remarked here that in spite of its name the *Necator* is widely distributed in the old world, being found in other parts of

India, e.g., Burma, while it is common in Ceylon. The Philippine Islands, tropical Africa, and North-West Rhodesia are also among its hunting grounds. Among the 11,142 samples of fæces examined 7541, or 68 per cent., were infected by *Ascaris lumbricoides*. A register was kept of the results in each instance; those persons found not to be suffering from ankylostomiasis received a certificate to that effect, and those infected received treatment which was mainly by thymol, the dose for an adult being 60 grains divided into three doses given at hourly intervals on an empty stomach. The stools were subsequently re-examined and, if necessary, a second or a third course of treatment was given to ensure freedom from the infection. As regards the attempts to estimate the effects upon bodily energy that may have followed upon the freeing of the coolie from infection, nothing very definite can as yet be stated; but the investigation is being continued and information is being collected from the managers of tea-gardens as to the amount of work now done by those cured of their worm infection as compared with what they did a year ago. The coolies themselves have expressed satisfaction with the results of their treatment in bringing to them a new feeling of energy and well-being.

MICROPSIA AND MACROPSIA.

THE latest volume of *Transactions of the Ophthalmological Society of the United Kingdom* contains a paper by Dr. S. A. K. Wilson on a symptom of not infrequent occurrence, under both physiological and pathological conditions, which presents certain features of interest. By micropsia is signified a disturbance in the visual appreciation of the apparent size of objects, whereby they seem smaller than they really are; macropsia is the term for the opposite condition. As a new word to combine both of these Dr. Wilson suggests "dysmetropsia," which may be taken to indicate defect in the visual appreciation of the measure or size of objects, whether by over-estimation or under-estimation. It is well known that dysmetropsia may occur as a transient phenomenon in fatigue states; and in the normal individual with uniocular vision alteration in the apparent size of objects can readily be demonstrated. If, one eye being closed, the other is directed on the finger placed between the eye and a printed page, the letters on the latter appear to grow smaller or larger as the finger is moved to or from the eye. Further, objects appear larger when seen through a fog while the sun and moon are apparently larger when seen at the horizon than at the zenith. There are various pathological states of the nervous system in which the phenomenon of micropsia or macropsia occurs, and Dr. Wilson has collected in his paper a number of instances from his own observation. These he has classified into two groups—viz., dysmetropsia of peripheral causation, and of central causation, the latter group being subdivided into cortical and transcortical varieties. In the first category are placed examples of the syndrome occurring in the course of tabes dorsalis, syphilitic basal meningitis, and disseminated sclerosis, where it is clear the cause of the dysmetropsia is a defect in the peripheral mechanism of accommodation. Actual retinal distortion from sarcoma of the choroid, retinitis, &c., may also have the same effect. In the second group Dr. Wilson records cases illustrating micropsia or macropsia as an aura in epilepsy, as a prominent feature in migraine, as a symptom in the course of cerebral tumour. In the transcortical group, including so-called psychical cases, he records, among others, a severe case of hysteria, the patient being a woman of 29, with hysterical ptosis and other typical hysterical symptoms. She had noticed that objects seemed much larger with the right eye than with the left, and, further, that with binocular vision the right half of objects was always much bigger than the left. Any round object, such as a ball, always appeared to bulge out on its right side. In other words, with the right eye only the condition was one of macropsia, with binocular vision of right hemimacropsia. This case in some ways resembles one described by Pierre Janet in his work on the psychoneuroses. Dr. F. W. Mott has reported the case of a Canadian officer suffering from shell shock who complained of seeing everything greatly magnified—his bandolier of cartridges looked as large as a pom-pom belt. Organic cases also, however, may show this dysmetropsia as a transcortical or psychical symptom, as in one under Dr. Wilson's care where the patient was a member of the medical profession and his observation therefore of enhanced value. This patient suffered from a cerebral tumour of the right occipito-parietal region, and among his symptoms were visual hallucinations of a macropsic nature; he thought he saw objects in front of him which were not really there, and they were apparently "very large and very near." It appears, then, that the phenomenon of dysmetropsia may be caused by disturbance of function on any of the levels of nervous function described by the late Dr. Hughlings Jackson as the lowest, middle, and highest levels—i.e., peripheral or subcortical, cortical, and transcortical or psychical levels. In his paper Dr. Wilson gives a suggested explanation of the pathogenesis of the condition and discusses the various factors that may be implicated.

THE MEDICAL INSURANCE AGENCY.

AT a meeting of the committee of the Medical Insurance Agency held last week, at the offices of the British Medical Association, the chairman, Dr. G. E. Haslip, presented the audited financial statement for the year 1916.

The annual statement showed that, in spite of the war, the surplus available for medical benevolent purposes had reached the sum of £841, compared with £798 in the previous year. The Agency was able during the year to distribute £230 to the Royal Medical Benevolent Fund, £160 to the Royal Medical Benevolent Fund Guild, £145 to Epsom College Benevolent Fund, £50 to the R.A.M.C. Officers' Benevolent Fund, £50 to the Auxiliary R.A.M.C. Fund (Officers' Benevolent Branch), £30 to the Royal Medical Benevolent Fund Society of Ireland, £25 to THE LANCET Special Fund, and £15 to the Royal St. Anne's School. In addition to these amounts, last week the committee was able to make an interim distribution on the current year of £200 to the Royal Medical Benevolent Fund, £100 to the Royal Medical Benevolent Fund Guild, £150 to Epsom College Benevolent Fund, and £50 to the Royal St. Anne's School.

Dr. Haslip mentioned in his report that since its formation the Agency had been able to devote a total sum of £2805 to medical benevolence, while the individuals insuring had received rebates amounting in the aggregate to £5300. This may be regarded as a highly satisfactory financial position and one which demonstrates the good work which the Agency is accomplishing for the medical profession. By insuring through the Medical Insurance Agency favourable premiums are obtained as well as benefit conferred on medical charities. The secretary of the Agency is Mr. Guy Elliston, 429, Strand, W.C. 2.

OPHTHALMOLOGICAL SOCIETY OF THE UNITED KINGDOM: ANNUAL CONGRESS.

THE Annual Congress of this Society was held on May 3rd to 5th inclusive, under the presidency of Mr. E. TREACHER COLLINS. The general discussions took place at the house of the Royal Society of Medicine, a debate on "Employment of the Blind" was held at St. Dunstan's, Regent's Park, and the clinical cases were inspected and discussed at the Royal London Ophthalmic Hospital, City-road.

At the opening meeting on Thursday morning the PRESIDENT referred to the great loss which the society and ophthalmology had sustained by the death of Mr. Walter H. Jessop, a former President and a most enthusiastic worker in the specialty. In his introductory address he dealt at length with the subject "The Sequelæ of Hypotony." The following is a brief statement of his conclusions:—

I. That hypotony may occur in connexion with several different affections of the eye, and the sequelæ to which it gives rise may be considered apart from the affection causing it.

II. That the sequelæ of hypotony vary in different cases according to the chamber (the aqueous or the vitreous) in which the pressure is most reduced, and according to its degree, duration, and rapidity of onset.

III. That the sequelæ of hypotony may be classified as follows:—1. Those due to relaxation of tissues usually kept taut: (*a*) wrinkling of the anterior elastic lamina of the cornea, producing superficial double-contoured lines; (*b*) wrinkling of the posterior elastic lamina of the cornea and layers of the substantia propria immediately adjacent to it, producing deep-seated striated opacities; (*c*) thickening of the sclerotic and the production of puckers in it behind the insertions of the recti muscles; (*d*) wrinkling of the elastic lamina of the choroid, and heaping up of the pigment epithelium on its inner surface where the folds are deep; and (*e*) displacement forwards of the lens and slackening of its suspensory ligament, both of which tend to increase the refraction of the eye. 2. Those due to production of relatively higher blood pressure compared to intra-ocular pressure than exists under normal conditions: (*a*) In the choroidal veins the normal excretion of lymph through them is arrested, and, instead, an exudation of lymph takes place, giving rise to detachment of ciliary body and choroid; (*b*) in the veins of the iris the normal excretion of the aqueous humour through them is arrested, and, instead, an exudation of lymph into the anterior chamber takes place, this exudation altering the normal consistency of the aqueous by increasing its percentage of proteids and rendering it spontaneously coagulable; (*c*) in the capillary vessels of the ciliary body the secreting function of that structure is quickened, and an exudation of lymph takes place, the albuminous constituents of which, in a rabbit's eye, being unable to permeate the epithelial lining of the part, raises it up in the form of vesicles; (*d*) in the capillary vessels of the choroid the normal exudation of lymph is stimulated, which, if it permeates the pigment epithelium, may collect beneath the retina, causing detachment of that membrane; and (*e*) in the retinal vessels of the optic disc the normal excretion of fluid from the vitreous is arrested, and an exudation of lymph into the head of the optic nerve takes place, giving rise to the appearances of choked disc.

The paper was discussed by Sir ANDERSON CRITCHETT, Mr. S. JOHNSON TAYLOR, and Mr. J. HERBERT PARSONS.

Lieut.-Col. R. H. ELLIOT, discussing the foregoing address, said that some years ago he pointed out that a condition of hypotony might exist for many months, or even for years, in patients who had undergone sclero-corneal trephining without any evidence that the eyes had suffered thereby. Others, including Mr. Treacher Collins, had confirmed the observation. Because cataract followed, or was considered to follow, the operation for glaucoma, it was not necessarily the result of the hypotony produced, or even of the operation itself. Cataract might precede glaucoma, and, under the conditions met with in high-tension eyes, it was possible for the lens opacities to be overlooked at the time. He thought there were other conditions besides a direct wound of the lens during operation which might determine the formation of a cataract. He had been able to keep in touch with cases for six years, and was able to say it did not necessarily cause opacities of the lens; indeed, it was open to question whether it ever did. The expectation that an artificial hypotony would lead to serious changes in the eye was largely due to a confusion of ideas. It was very erroneous to consider the condition of the contents of the eye as though the problem were one of hydrostatics; it was really one of hydrodynamics. The manometer was far too coarse an instrument to give reliable indications of the minute differences of pressure which certainly existed in the various chambers of the eye. The most helpful part of the President's contribution was that which referred to the transudation of serum into the anterior chamber from the surface of the iris, the posterior chamber remaining free of the pathologic exudate. He agreed as to the transitory tendency towards myopia after trephining: he had often noted it; he had seen as much as 2½ diopters of myopia within a fortnight of the procedure. As the flap consolidated the chamber deepened, the lens system receded, and the myopia disappeared, the eye gradually returning to its original state of refraction.

The PRESIDENT replied.

Mr. A. HILL GRIFFITH read a paper on Transmitted Glioma of the Retina.

Captain W. WALLACE contributed a paper on Conditions Affecting the Standard of Vision in the Army. He urged that in aiming at efficiency in this matter the standard of the patient, and especially his mental attitude, must not be disregarded. He discussed the changed visual standards set up by the Army Council, which, he believed, had not resulted in any considerable transfer into Class A of those formerly in a lower category. For example, of 723 cases only 46 were raised from B to A, while 11 went from A to B. He supported his views by a carefully compiled table.

The discussion revealed conclusions at variance with those of the author, and in the end a resolution was agreed to in regard to the visual standards in the Army.

Captain R. R. CRUISE read a paper on Protection of the Eye in Warfare. He said it was hoped that the measure of protection against injuries to the head afforded by the steel helmet would find a parallel, in the case of the eye, in the visor which he had designed, and which the War Office had accepted and adopted. This visor was now on extensive trial. From the point of view of protection, the injuries may be divided into two classes: (*a*) preventable, and (*b*) non-preventable. The simplest instances of the first class were those in which a small shell splinter penetrated the globe, and of the second category a bullet traversing both orbits. To obtain an accurate conception of the extent of the preventable class, a large number of cases must be carefully examined. In some cases it was difficult to know into which category to place them. Among the definitely preventable were cases in which the cornea was incised, the iris prolapsed, and a septic panophthalmitis ensued, cases in which a foreign body had had sufficient energy to penetrate the globe but not to pass out of it. In the same class also were contusions of the globe producing a varied and common picture of dislocated lens, traumatic cataract, irido-dialysis, intraocular hæmorrhage, and retinal lesions. He had been surprised at the relatively few cases of detachment of the retina which his war experience had included. Morex and Moreau, of Paris, estimated that 54 per cent. of casualties to eyes in a series of 488 cases of injury caused by shell, grenade, or bomb were produced by small particles, the condition being that 50 per cent. of all eye injuries could be prevented by some sort of gauze shield. From the examination of a very large number of cases of eye injury during the war Captain Cruise found that 58 per cent. of them were preventable; 42 per cent. non-preventable. The visor consists of a transparent mesh of steel rings so closely linked together that only the most minute particles could pass through its meshes, and then only if the impact occurred at right angles to the plane of the surface. The visor is attached to the helmet, and when not required is easily thrown on to the brim of the helmet and as easily lowered again into position when required. The links were chemically treated to render them rust-proof.

The society passed the following resolution:—

The Ophthalmological Society of the United Kingdom, having examined the steel visor designed by Captain Cruise, has every reason for believing that it would prevent at least 50 per cent. of the eye injuries received in warfare. The visor has received the strong approval of ophthalmic surgeons in the field and at home. This society begs respectfully to urge that its production should be expedited, and that its application and method of use should be placed under the supervision and control of a competent authority.

Mr. J. GRAY CLEGG read a paper on "Sclerocorneal Trephining for Hypertension, with Results of some 250 Cases."

(To be concluded.)

THE RECENT VACCINATION ORDER.—The Association of Public Vaccinators of England and Wales has been in communication with the Local Government Board regarding the scope of the recent Order permitting medical officers of health to vaccinate small-pox contacts. The reply of the Assistant Secretary to the Board, dated April 25th, runs as follows:—

I am directed by the President of the Local Government Board to advert to your letter of the 30th ultimo and to state that the object of the Public Health (Small-pox Prevention) Regulations, 1917, is to empower a medical officer of health to vaccinate or revaccinate contacts with cases of small-pox. The Board anticipate that the need for this will only arise when the services of the public vaccinator are not immediately available. In ordinary circumstances the operations should be performed by the public vaccinator as hitherto.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

The Society of Medical Radiology.

THE Under Secretary of State for the Service of Health recently presided at a meeting of this society. M. Ledoux-Lebard contributed a study of practical methods at the front and at the base. He agrees with Ombrédanne that extraction of foreign bodies by the aid of intermittent screen control is now a possibility, given conditions allowing the surgeon sufficient latitude for operating without exposing him dangerously to the rays. But whatever technique may be adopted any difficult exploratory operation should be performed on a radiological table. Of this there seems to be no doubt. M. Aubourg and M. Barret reviewed the various types of radiological installation in the Army, and asked for the radiologist to be given the choice of exploratory method for establishing his diagnosis, alleging a great saving of plates by this means. M. Rechou emphasised the large place now held by radiotherapy in the treatment of gunshot wounds. M. Belot described a very exact procedure demanding the minimum of special appliances, while allowing the ophthalmologist to locate a foreign body precisely by means of four radiographic plates. M. Béclère stressed the necessity of confining the direction of radiological services to doctors, requiring, as it does, a combination of anatomical, physiological, pathological and chemical knowledge which only medical men possess. Finally, M. Delherm and M. Kindberg demonstrated the advantages of radio-diagnosis in suspected pulmonary tuberculosis among soldiers. Sometimes the symptoms may be shown by means of the rays to be of purely functional origin, in other cases early diagnosis is rendered possible, and in a third group the pulmonary origin of obscure symptoms is established thereby. The help of the radiologist is likely to result in great benefit to Medical Boards.

Superiority of Agricultural Work to Physico-Therapy.

At the Academy of Sciences M. Bergonié related the result of comparative observations extending over 30 months showing the superiority of agricultural work, medically prescribed and supervised, over the physical institutional treatment of the results of gunshot wounds. This is specially the case with men formerly agricultural labourers, who naturally return with readiness to their former habits of fresh-air life, and in so doing recover almost unconsciously the movements to which they have been accustomed since early youth. Fatigue is diminished thereby, inasmuch as attention is not continuously in demand; it is the reflex arc, physiologically almost inaccessible to fatigue, that is brought into play. M. Bergonié finds agricultural work applicable to all varieties of disability, granted that the routine is prescribed and supervised by a medical man. The results of this functional re-education in the Bordeaux district have been most gratifying from the point of view of both moral and physical fitness. Naturally the treatment has a wider application during fine weather than in autumn or winter.

The War-time Pot-belly.

M. Dénéchau and M. Mattrais recently drew attention at the Medical Society of the Hospitals to a singular morbid condition observed by them on several occasions, manifesting itself in a peculiar deformation of the abdomen associated with gastro-intestinal disturbance. The subjects are tired persons complaining of colitis, vomiting, alternate constipation and diarrhœa, with emaciation; the abdomen becomes distended and prominent, walking is impeded, and the presence of Pott's disease occurs to the mind. The resemblance to a seven or eight months pregnancy is striking, but the size of the abdomen varies somewhat in different positions, especially on lying down, and the volume is reducible to some extent by vigorous flexion of the thighs. The poor general condition of the patients may also raise a suspicion of chronic peritonitis, and discharge be recommended on this account. Of M. Dénéchau's 18 cases, 5 were already under consideration for discharge. The deformation was, however, shown to be of a motor nature, partly voluntary or subconscious, resulting from depression of the diaphragm—a fact which could readily be established by radioscopy. The crises of colitis and the occasional aerophagia from which these patients suffer give rise to auto-suggestion of grave abdominal mischief.

The Administration of Quinine in Syphilis.

In his malarial clinic at the Pantheon Hospital, M. Jeanselme has collected a number of observations having the absolute value of laboratory experiments. At this hospital patients are submitted to intensive quinine treatment, some of them having received as much as 40 grammes of the hydrochlorate. A few of these patients developed syphilis during quinine treatment, the exact day of infection being ascertainable; the disease was found to run its course in precisely the same way and in the same time as in cases not under the influence of quinine. It follows that in syphilis quinine has neither a preventive nor a curative action.

A Gastric Hair-ball in a Girl.

Dr. Dauriac aroused keen interest at the Academy of Medicine last month by communicating the case of a girl aged 13 whose stomach was entirely filled by an enormous bundle of hair of the same consistency as those sometimes found in horses. The child had contracted in infancy the strange habit of biting and swallowing locks of her own hair. This mass occupied the lumen of the stomach and the first part of the duodenum. Digestion was defective and the child was becoming emaciated. Dr. Dauriac excised the stomach with its contents, the nature of which was not suspected. The end of the œsophagus, fortunately much elongated, was sutured to the pylorus, the child recovering rapidly from the operation and regaining full digestive powers.

THE CONTROL OF VENEREAL DISEASES.

A Comparison of English and American Methods of Venereal Control.

THE *Journal of the American Public Health Association* for April, contains an editorial article on the prevention and cure of venereal diseases, in the course of which, after describing the Local Government Board Regulations, the writer adds:—

> This remarkably thorough organisation for dealing with social diseases is the outcome of the report of the Royal Commission, which contains statistics and facts regarding the situation, full of interest and illustrative not more of the conservative way in which legislation is undertaken in Great Britain in matters affecting the liberty of the citizen than of the scientific and thorough manner in which legislation when once enacted is put in force. The elevated ideas along social lines which prevail in Parliament are well illustrated when they accept the findings of a scientific commission as a sufficient guide to them in passing legislation of so drastic a character as that in recent Acts.
>
> It is probably true that on the American continent similar legislation is more readily obtained when public agitation has been worked up than in England; but the practical difficulties in its enforcement are usually found not more in the refusal of the general public to submit to drastic regulations than in the extremely varied character of our administrative machinery. It is true that in most States and Provinces local Boards of Health are appointed, while in probably all such the boards in cities and towns where hospitals are located have fairly adequate public health by-laws. What is, however, altogether too prevalent is the evil of temporary political appointments of health officers with, in consequence, tenures of office unfortunately very uncertain.

The article concludes by foreshadowing for the United States legislation of an adequate character, such as that recently passed in this country, but including compulsory notification and supervision of all patients until completion of treatment. In this way "the first real steps in advance in the solution of this, the most difficult of all public health problems, will have been taken."

Dr. R. R. Rentoul calls our attention to penal clauses in regard to venereal diseases which appear in the legislature of various North American States, e.g.:—

> State of Oregon, Feb. 28th, 1913.—S. 1. Applicant for permit to re-marry must file a certificate from an authorised physician, made under oath, that the male applicant is free from contagious or infectious venereal disease. S. 2. Physician making false statement shall lose his diploma. S. 3. Fee for doctor's certificate 2 50 dols.
>
> North Dakota, 1913.—S. 1. No woman under the age of 45, or man of any age, except he marry a woman over 45, either of whom is ..... afflicted with pulmonary tuberculosis in its advanced stage, or of any contagious venereal disease, shall hereafter inter-marry or marry any other person within this State. S. 2. Penal for clergyman to join in marriage such persons. S. 5. Fee for doctor's certificate 2 dols. S. 6. Fine for illegally joining in marriage 50 to 500 dols. or imprisonment for 30 days.
>
> State of Pennsylvania, 1913.—S. 1. No permit to marry if either of the contracting parties is afflicted with a transmissible disease. S. 4. Applicant may appeal to a court free of expenses.
>
> State of Michigan, 1905.—S. 6. No insane person, idiot, imbecile, or person who has been afflicted with syphilis or gonorrhœa, and has not been cured of the same, shall be capable of contracting marriage. Certificate of being cured must be signed by two qualified physicians. Anyone aiding or assisting such to marry may be fined up to 1000 dols., or to imprisonment up to five years.

Salvarsan or Neosalvarsan?

The relative value of the various organic preparations of arsenic at present on the market is by no means firmly established. In the *British Medical Journal* of May 5th Lieutenant-Colonel L. W. Harrison and his coadjutors at the Rochester Row Military Hospital, Major C. F. White and Mr. C. H. Mills, emphasise the obvious difficulties which seriously limit the intravenous administration of these preparations, and the great advantage of the hypodermic method if rendered painless and proved to be as effective as the other. After investigating the Wassermann reaction in a series of more than 100 cases treated by means of the various preparations, some administered intravenously, others hypodermically, they conclude: (1) The intramuscular or subcutaneous injection of neosalvarsan, novarsenobenzol, or novarsenobillon is superior in immediate therapeutic effect to that of the intravenous injection of salvarsan, kharsivan, arsenobenzol, or arsenobillon; (2) spirochætes disappear from syphilitic lesions just as rapidly after the first intramuscular as after the first intravenous injection, and the Wassermann reaction is more quickly influenced; (3) solution of the dose of neosalvarsan in 1 c.c. of 4 per cent. stovaine and emulsion in creo-camph cream eliminates discomfort sufficiently to make the intramuscular injection of neosalvarsan practicable for routine use. This result, if confirmed, will much simplify the work of the venereal treatment centres as well as that of the practitioner called on to administer organic arsenic.

Routine Treatment of Syphilis at the Hôpital Broca, Paris.

Military needs require a short, intensive treatment of syphilis for the soldier in order to send him back as soon as possible to his place at the front. In the *Paris médical* of May 5th Dr. Hudelo, physician to the Hôpital Broca, describes the routine treatment, lasting 40 days, adopted in the hospital since the outbreak of the war. Nine injections of 0·3–0·9 gm. of novarsenobenzol (4–5 gm. in all) are given at intervals of five days interspersed with 20 injections each of 0·01 gm. mercuric cyanide. In every case the patient left the hospital with a negative Wassermann reaction. On his discharge-sheet is written an instruction to receive further mercurial treatment, by pill or injection, after an interval of not more than two months. Dr. Hudelo writes:

> We hope, by this association of arsenic and mercury, that the spirochætes put out of action but not killed by the arsenobenzol, which disappears from the system in 48 hours, and still maintaining a stand in some corners of the organism will succumb completely to the spirochæticidal action of the mercury. We note with pleasure that a method identical with that here suggested has been adopted in military practice, amongst others, by Favre and Longin, Pautrier, Goubeau, Pasteau and Mallein, Ravaut, and Thibierge.

The British Journal of Dermatology and Syphilis.

The *British Journal of Dermatology* has existed for 28 years, and during that long period has done a large amount of excellent work in the province of dermatology. It has now been decided to change its title by the addition of "Syphilis," in view of the prominent place that syphilis holds in dermatological work. All who have had much experience in the diagnosis and treatment of diseases of the skin know that syphilitic rashes are frequently unrecognised, and the results of these errors of diagnosis are deplorable. If syphilis is recognised and treated in the secondary stage when skin manifestations are mostly seen, the spread of the disease would be greatly diminished and those more serious and later results would be rendered impossible. We therefore welcome the change in the title of this important journal, for it emphasises the need for syphilis to be recognised and treated while it affects mainly the skin and before it has had time to establish itself as a constitutional affection.

Courses of Instruction.

A course of instruction in the clinical pathology of venereal diseases will be given by Dr. J. Eyre to practitioners, post-graduates, and students, in the pathological theatre of Guy's Hospital Medical School, at 5 P.M. on May 21st, 23rd, 24th, and 25th. Laboratory demonstrations in the bacteriological laboratory follow each lecture at 6 P.M. Members of the medical profession to be admitted on presentation of their cards.

Enlightenment Campaign.

The acting medical officer of health of the borough of Deptford, Dr. Murdoch Macdonald, has arranged or a conference of the citizens representing the various interests—municipal, industrial, educational, social, and religious—in the borough of Deptford, to be held in the Council Chamber at the Town Hall on Wednesday, May 23rd, at 8 P.M., when Mr. A. R. Turner and Mrs. Gotto will outline the work of the National Council for the Prevention of Venereal Diseases.

Major F. W. Mott, F.R.S., delivered an illustrated lecture on the Pathology of Venereal Disease at the Royal Institute of Public Health on May 9th. He emphasised the fact that pathology had now done its work in finding the cause of venereal diseases and the means of remedying them, and that it was for the State, acting on this work, to take such measures as were necessary to prevent, or failing that to cure, venereal diseases.

NATIONAL HEALTH INSURANCE.

The Public and Panel Practice in London.

RECENT circulars, numbered D 8, D 9, have been addressed to various bodies interested in the administration of National Insurance, and a Subcommittee of the Panel Committee for London has drafted a memorandum upon them, which has been adopted by the Committee and which is of interest because of its broad outlook. Recognising itself as only competent to speak for members of the medical profession upon the panel in London, but at the same time representing a body of 1500 such practitioners, the Subcommittee has been able to compile a series of notes and suggestions of a very varied character. Some of the questions are not such as medical men directly engaged upon insurance work can answer authoritatively, but it is all to the good that medical attention should be drawn to them. For example, the general feeling of insured persons towards insurance and the medical benefit provided under it is a matter deserving the notice of a busy panel practitioner, but for the most part his time is so fully occupied in attending to his patients' illnesses that their opinions on panel practice at large may not interest him. His hours of work and his banking account may afford him the impression that his own efforts are appreciated, or otherwise, but that is an individual matter. According to the memorandum of the London Panel Committee, he is likely to be told by his patients about administrative difficulties, such as delay in the payment of sickness benefit, or in providing medical cards, if he shows himself sympathetic, and this he should certainly be. This would seem to suggest that the insured person may be more prone to grumble, whether justly or not, at the shortcomings of those engaged on administration when in conversation with the medical man, and to ventilate any grievance against his medical attendant in communications with officials of his Approved Society, or with the Insurance Committee. In any case the small number of applications by insured persons in London to make their own arrangements with medical practitioners outside the panel is evidence of general satisfaction with the attendance provided by those within it.

With reference to the general feeling of the medical profession in London towards insurance practice, the Subcommittee believes that the majority of those engaged in it find the conditions preferable to those formerly prevailing in club practice or private practice in poor districts. It does not go further than that. As to the conditions which would bring into panel practice more of those general practitioners who, chiefly in wealthier areas, now decline to engage in it, the Subcommittee offers no precise opinion. It has suggested, however, certain improvements which it is inclined to believe would bring in a considerable proportion of those who now stand aloof. In any case, however, it has been found that an overwhelming majority of panel practitioners in the metropolis prefer the present conditions to the prospects offered by a whole-time salaried service, for which, by the way, no definite scheme has ever been put forward for consideration by anyone in a position to do so with authority. The memorandum summarises the principal reasons upon which the preference referred to is based. The suggestion may be added that at the present time a very large proportion of the medical profession is now gaining experience as to some, at least, of the drawbacks or advantages of service under a controlling authority.

Service under the War Office, whether at home or abroad, at the present date may differ widely from service under a civil authority in time of peace, but the mere experience of service as such is likely to have done much in shaping the opinions of those most concerned as to the desirability of the revolutionary change which a "service" implies. All these general topics affecting medical practitioners on the London panel have their bearing on the question of the remuneration, summarised in the question, "If a panel practice and the remuneration derived from it were the sole work and pay of a practitioner, would such a practice of average size enable him to maintain a social position suitable to his professional status?" The memorandum replies by calling attention to the fact that panel practice is usually combined with other forms of practice, but as to the question as it stands expresses the view that the remuneration there referred to is inadequate, having regard to the length and cost of the period of education, and "the desirability of a professional man being able to educate some of his children to follow his own calling." It might have said that the maintaining of his social position by a professional man must include the bringing up of all the members of a fair-sized family so as to enable them to occupy a position equal to that of their father. This, we suggest, would constitute a problem of some difficulty for a member of the medical profession in the metropolitan area earning only the income afforded by a panel practice of "average size." It emerges from the memorandum that the question of remuneration will be one of the first importance if ever any statesman proposes a concrete scheme of salaried service. If that remuneration is to be based upon the acceptance of panel conditions by panel practitioners under pre-war conditions it is not likely to prove satisfactory to its proposed recipients. As to this the memorandum contains a timely reminder in a note which calls attention to the varying economic and other conditions due to the war—to rising costs of commodities and of services which may never resume their former rates, and to the lowered comparative value of salaries and fees. With these altered conditions affecting all professional life in the future there must be included for the consideration of medical practitioners the grave problem of the disabilities of soldiers, sailors, and civilian workers likely to be found due to the ordeal through which the country is passing. The above are, as we have indicated, some of the general questions dealt with in the memorandum of the Panel Committee of London. More particular topics have to be discussed in the light of conditions prevailing in and affecting particular localities.

URBAN VITAL STATISTICS.

(Week ended May 12th, 1917.)

English and Welsh Towns.—In the 96 English and Welsh towns, with an aggregate civil population estimated at nearly 17,000,000 persons, the annual rate of mortality was 15·3, against rates declining from 18·5 to 15·7 per 1000 in the four preceding weeks. In London, with a population exceeding 4,000,000 persons, the death-rate was 15·4 per 1000, and was equal to that recorded in the previous week; among the remaining towns the rates ranged from 5·4 in Acton, 5·7 in Eastbourne, and 7·5 in Barrow-in-Furness and in West Hartlepool, to 23·6 in Halifax, 23·7 in Sunderland, and 29·8 in Middlesbrough. The principal epidemic diseases caused 419 deaths, which corresponded to an annual rate of 1·3 per 1000, and included 252 from measles, 54 from whooping-cough, 47 from infantile diarrhœa, 45 from diphtheria, 12 from enteric fever, and 9 from scarlet fever. The deaths from measles were 34 below the average in the previous weeks, and caused the highest annual death-rates of 3·1 in Dudley, 3·2 in Salford, 3·9 in Sunderland, and 4·8 in South Shields. The 707 cases of scarlet fever and 1179 of diphtheria under treatment in the Metropolitan Asylums Hospitals and the London Fever Hospital were respectively 32 and 24 below the numbers remaining at the end of the previous week. Of the 4986 deaths from all causes in the 96 towns, 152 resulted from violence. The causes of 39 deaths were uncertified, of which 8 were registered in Birmingham, 5 in Liverpool, and 3 each in Bury, Manchester, and South Shields, but not one in London.

Scotch Towns.—In the 16 largest Scotch towns, with an aggregate population estimated at nearly 2,500,000 persons, the annual death-rate was equal to 15·9, against 18·4 and 17·2 per 1000 in the two preceding weeks. The 339 deaths in Glasgow corresponded to an annual rate of 15·8 per 1000, and included 41 from measles, 36 from whooping-cough, 6 from infantile diarrhœa, 3 from diphtheria, and 1 from scarlet fever. The 107 deaths in Edinburgh were equal to an annual rate of 18·8 per 1000, and included 15 from whooping-cough, 11 from measles, and 1 from scarlet fever.

Irish Towns.—The 155 deaths in Dublin were equal to a rate of 20·3, or 1·7 per 1000 less than that recorded in the previous week, and included 6 from measles, 3 each from enteric fever and whooping-cough, and 1 each from diphtheria and infantile diarrhœa. The 132 deaths in Belfast corresponded to an annual rate of 17·5 per 1000, and included 4 from infantile diarrhœa, 3 from measles, 2 from enteric fever, and 1 each from scarlet fever and diphtheria.

Obituary.

MARC ARMAND RUFFER, KT., C.M.G., M.A., M.D. OXON., F.L.S.,

PRESIDENT OF THE SANITARY COUNCIL OF EGYPT.

Sir Armand Ruffer, who died at sea as he was returning to Egypt from Salonika, where he had gone to reorganise the sanitary service for the Greek Provisional Government, was one of the great medical administrators of his time.

Marc Armand Ruffer was born at Lyon in 1859, son of the late Baron Alphonse Jacques de Ruffer. His mother was German, and the son was therefore brought up with an intimate knowledge of three European languages. He was educated at Brasenose College, Oxford, and University College, London, taking his Arts degree in 1883 and obtaining his medical qualification four years later. From the first interested in pathological work he became a pupil of Pasteur and Metchnikow at the famous Institute in Paris, and on returning to London continued to work at the problems of phagocytosis, which were then of new and surpassing interest. His first important article was contributed in 1890 to the *Quarterly Journal of Microscopical Science*, and in the same year he read a paper at the annual meeting of the British Medical Association on the destruction of micro-organisms during the process of inflammation. In these papers clear expression was given to the conception of inflammation as a protective mechanism serving a useful purpose against infection, and in one of them Ruffer described the diphtheritic membrane as a battlefield in which amœboid cells contended with the pathogenic microbes of the disease. His further work on phagocytosis in the intestinal canal has not yet received the recognition which it deserves. It was at this time that Ruffer became the first director of the British Institute of Preventive Medicine, where he was assisted by Professor H. G. Plimmer. At Metchnikow's suggestion the two pathologists turned their attention to cancer, and they succeeded in establishing the fact that the intracellular objects seen in cancer cells did not resemble any known form of cellular degeneration. The last work Ruffer carried out at the Institute was on diphtheria, for which the antitoxic serum was then a new discovery. The preparation and testing of the serum was a laborious and dangerous task, both Ruffer and Plimmer falling victims to the disease, Ruffer himself suffering so severely from diphtheritic paralysis that he resigned his directorship of the Institute and sought health on a visit to Egypt.

In 1896 Ruffer was appointed professor of pathology in the Medical School of Cairo in succession to Dr. Kaufmann, and here his latent administrative ability served him in good stead. He started to reorganise the school, collecting around him a staff of able men to carry on his traditions. His success was so evident that two years later he was offered and accepted the presidency of the International Sanitary, Maritime, and Quarantine Council of Egypt, which he retained throughout his life. The organisation which freed Egypt from cholera began with the building of stations on the pilgrim routes, especially at Tor on the Red Sea, where the director personally inspected the pilgrims, letting no suspicious case pass through. Without special knowledge of Arabic his linguistic capacity, combined with the exercise of great tact, enabled him to surmount the difficulties of the situation. In his administrative work he was upheld throughout by the late Lord Cromer, and later by the late Lord Kitchener, who both had the fullest confidence in the measures he proposed. His appointment on the Indian Plague Commission took him away from Egypt for a time, and the volumes of the Commission's reports may still be read with profit. To Ruffer was due the increasing recognition of the value of Haffkine's work.

Ruffer took the greatest interest in antiquarian work for which Egypt provided him ample opportunity. He made a careful investigation of the mummies of the eighteenth, nineteenth, and twentieth dynasties in the Hearst collection at Cairo, finding in them a great variety of grave pathological phenomena, including arterio-sclerosis, tuberculosis, lung disease, anthracosis, and multiple abscess of the kidney. In the morbid lesions micro-organisms were found still recognisable by their staining reactions, among them the tubercle bacillus. The aorta of Rameses II. which he sent to London

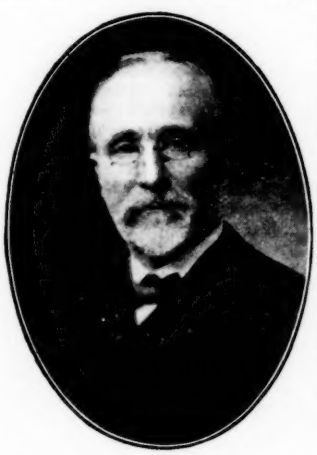
was examined by Professor Plimmer and found to show marked atheromatous change. Ruffer concluded that arterial lesions were as frequent 3000 years ago in Egypt as at the present time, and were even then due to the stress and responsibility of civilised life rather than of toxic origin. A study of the artistic productions of ancient Egypt enabled Ruffer to analyse the prevailing diseases of even earlier times, 5000 years or more ago. Achondroplasia, Pott's disease, talipes were recognised with certainty, probably also rickets. A volume of antiquarian studies likely to be of surpassing interest was ready for the press, but unfortunately prevented by the conditions of war from appearing.

At the outbreak of war Ruffer was appointed head of the Red Cross in Egypt and did a large amount of useful work in this connexion. After completely organising the means at his disposal he felt free to accept an invitation from the Greek Provisional Government to undertake the sanitary reorganisation in the Salonika district. His last letter records the fact that in spite of grave difficulties and discouragement good progress had been made in this work. It was during his return to Egypt that his lamented death occurred. Many honours fell to his share, among them the Grand Order of Medjidie and the Grand Order of Osmanieh in Egypt. He was a Commander of the Order of St. Saviour of Greece, St. Anne of Russia, and of the Cross of Italy, and an Officer of the Legion of Honour. His Companionship of the Order of St. Michael and St. George was granted in 1905 and supplemented by a Knighthood in 1916. Ruffer was a man of deep culture in the best sense. With his linguistic powers and knowledge of men he was peculiarly fitted to be a sanitary administrator of a great dependency. He was also a keen musician with technical mastery of the violoncello. Sir Armand Ruffer married Alice Mary, eldest daughter of the late Captain Greenfield, R.A., and is survived by his widow and three daughters.

PROFESSOR LANDOUZY,

DEAN OF THE FACULTY OF MEDICINE, PARIS.

WITH the death of Professor Landouzy in Paris, at the age of 72 years, on May 10th, after a long illness, the Paris Faculty of Medicine has lost its senior and most distinguished member. Louis Théophile Joseph Landouzy was born at Rheims in 1845, the son and grandson of medical men. Beginning his studies in the place of his birth, he went to Paris in 1867 to complete them, becoming hospital resident in 1870, and steadily ascending the professional ladder until his appointment as physician to the Hospital Laennec in 1890. Three years after this he accepted the chair of therapeutics at the Faculty of Medicine in Paris, bringing with it the membership of the Academy of Medicine. In 1907 he was chosen by the Faculty to be its dean, and in 1912 he was elected a member of the Institute. His most recent honour was the award of a gold medal for his work on infectious diseases by the Ministry of the Interior.



Landouzy had long become one of the familiar figures of contemporary medicine both in France and abroad. Endowed with a great capacity for work associated with remarkable physical activity he accomplished a very large amount of scientific work bearing on a variety of important questions. With Déjerine he described the special type of facio-scapulo-humeral myopathy which is now associated with both their names. But it is in connexion with tuberculosis that his name will be best remembered. The pathology of the lungs owes to him important researches, notably on primary tuberculosis of the pleura. He first described in 1883 a type of acute tuberculosis which he characterised as *fièvre bacillaire non-granulique à forme typhoïde*, or more briefly later as *typho-bacillose*, in which the ordinary morbid lesions of tuberculosis failed to make their appearance. More recently, in the *Presse médicale* of April 21st, 1906, he described a flexure of the little finger as *camptodactylie* occurring in tuberculous subjects. The little finger of a patient, he said, "tells his past, shows his temperament, and foretells his future." Later still he showed that the serum from the lesions of erythema nodosum produced tuberculosis when injected into guinea-pigs. In opposition to Calmette and others he upheld the origin of laryngeal tuberculosis by direct surface-infection. In the struggle against tuberculosis as a social disease Landouzy was ever to the front. He was delegate to the several international congresses on tuberculosis, and at Washington in 1908 expressed the belief that the centenary of Pasteur would witness the final extinction of tuberculosis. If he had lived to complete it, his last work would have been devoted to the organisation of an antituberculosis campaign in the Army and to the invaliding of the tuberculous soldier.

Two qualities in Landouzy which contributed specially to his success were his great facility in physical examination and an unusual clearness of verbal exposition. The combination made him a really great clinical teacher, a fact which Paris students did not forget even when his ruling as dean ran counter to their inclinations. He was devoted to his pupils, showing himself always a sure and considerate friend to them, an example of goodwill and approachableness. He organised travel studies to the French thermal stations, conducting them himself for a dozen years. He was present in London at the last International Medical Congress of 1913, when he read a paper on thermal treatment and spoke as the official delegate at the dinner given by Lord Beauchamp on behalf of the British Government. During the last winter his health had been very variable, largely due to the extra work which he had taken upon himself in the charge of a military clinic at the Lycée Buffon in addition to his ordinary occupations. He had recently undergone two surgical operations and death was due to an attack of uræmia. He leaves behind him regret on the part of all who knew him.

HENRY WILLIAM WILLIAMS, M.D., C.M. ABERD.

Dr. H. W. Williams, whose death has occurred at the village of Guilsborough, Northants, was 81 years of age, and had been for more than 30 years actively associated with the Salvation Army. Born in 1836 and educated at Aberdeen University, Queen's College, Birmingham, and Anderson College, Glasgow, he was for a long time on the active staff of two London hospitals, the Western Skin Hospital and the Margaret-street Hospital for Consumption, to both of which he was at the time of his death senior consulting physician. He was one of the founders of the British Medical Temperance Association and a vice-president of the Society for the Study of Inebriety. Dr. Williams was an ardent upholder of the legal rights of the medical profession against the quack and impostor, contributing on the subject to our columns at the time of the Medical Acts Amendment Bill of 1867. Joining the Salvation Army in 1885, he held for 27 years the position of honorary director of the medical department at the International Headquarters in Queen Victoria-street, London, with the rank of lieutenant-colonel in the organisation.

CENTRAL MIDWIVES BOARD.—A meeting of the Central Midwives Board was held at Queen Anne's Gate Buildings, Westminster, on May 10th, with Sir Francis H. Champneys in the chair. A letter was considered from the National Association for the Prevention of Infant Mortality and for the Welfare of Infancy transmitting a copy of a draft circular prepared jointly by the Midwives Institute and the Committee of the Association, with the view of assisting practising midwives in promoting breast-feeding, and expressing the hope that permission may be given for the publication of the circular with an expression of the approval of the Board. The Board decided that the reply be that the Board gives its general approval to the circular of the National Association for the Prevention of Infant Mortality and for the Welfare of Infancy on Breast-feeding with the exception of the note at the end and has no objection to the publication of the circular with an expression of this general approval.

The War.

THE CASUALTY LIST.

THE following names of medical officers appear among the casualties announced since our last issue :—

Killed.

Capt. F. Hunton, R.A.M.C., attached Northumberland Hussars Yeomanry, received his medical education at Newcastle-on-Tyne, and qualified at Durham in 1891. Prior to joining the R.A.M.C. he was in practice at Sedgefield, Ferry Hill, in which district he held several appointments.

Died of Wounds.

Capt. G. S. Blandy, M.C., R.A.M.C., qualified at Edinburgh in 1902, and was medical officer at Napsbury Asylum previous to joining up. He formerly held appointments at the Norfolk and Norwich Hospital and at the Scarborough Hospital, and was for some time assistant medical officer at the Norfolk County Asylum at Thorpe. The award of the M.C. was announced in THE LANCET of June 10th, 1916, p. 1195.

Capt. J. Ewing, R.A.M.C., attached Royal Welsh Fusiliers, was educated at Leeds and qualified in 1903. Prior to joining up he was in practice at Leeds.

Died.

Major C. Ryley, R.A.M.C., was a student at St. Mary's Hospital, London, and qualified in 1901. After holding appointments at Paddington Green Children's Hospital and at St. Mary's Hospital, he joined the R.A.M.C. in 1904 and saw service in China and Bermuda. He went to the front in the middle of last year and contracted pericarditis, from which he died.

Capt. C. B. Burden, Australian A.M.C.

Wounded.

Capt. R. M. Alcorn, R.A.M.C., attached Northumb. Fus.
Capt. J. D. Marshall, R.A.M.C., attached Suffolk Regiment.
Capt. C. F. Searle, R.A.M.C., attached Northampton Regt.
Capt. O. C. S. Tandy, R.A.M.C., attached Seaforth High.
Lieut. J. Young, R.A.M.C., attached Gloucester Regiment.
Capt. P. E. Voss, Australian A.M.C.
Capt. I. D. Dickson, R.A.M.C.
Lieut. G. E. Spicer, R.A.M.C.
Capt. F. R. Armitage, R.A.M.C., attached R.F.A.
Capt. E. W. Adcock, R.A.M.C., attached E. Yorks Regiment.
Lieut. L. Kilroe, R.A.M.C.
Capt. J. M. Moyes, R.A.M.C.
Capt. H. G. Hobson, R.A.M.C., attached R.F.A.
Capt. E. S. Cuthbert, R.A.M.C., attached Middlesex Regt.
Capt. E. C. Gimson, D.S.O., R.A.M.C., attached E. Surrey R.

DEATHS AMONG THE SONS OF MEDICAL MEN.

The following sons of medical men must be added to our lists of those who have fallen during the war :—

Lieut. E. B. D. Brunton, Middlesex Regiment, only son of Dr. C. E. Brunton, of Walthamstow, London.
Second Lieut. J. Newton, H.A.C., younger son of the late Dr. W. T. Newton, of Lakenheath, Suffolk, and formerly of Goswell-road, London.
Second Lieut. J. C. Orr, Royal Berkshire Regiment, second son of Dr. W. R. Orr, of East Finchley, London.
Major J. H. Clapperton, Royal Field Artillery, third son of the late Dr. J. Clapperton, of Broughton, Hants.
Capt. T. S. King, East Surrey Regiment, only son of the late Dr. T. R. King.
Second Lieut. G. W. Clapham, Royal Field Artillery, second son of Mr. L. Clapham, M.R.C.S., of Thorney, Peterborough.

THE HONOURS LIST.

The following awards are made in connexion with the engagement between H.M.S. *Swift* and *Broke* and a flotilla of German destroyers on the night of April 20th–21st :—

Distinguished Service Cross.

Surg.-Prob. Christopher Thomas Helsham, R.N.V.R. (*Broke*)
Surg.-Prob. John Sinclair Westwater, R.N.V.R. (*Swift*).

Worked with great energy and ability in attending to the wounded.

The following award is also announced :—

Military Cross.

Capt. Stanley Sextus Barrymore Harrison, R.A.M.C., attached South Staffordshire Regiment.

For conspicuous gallantry and devotion to duty. He worked continuously for 10 hours under very heavy fire, and was responsible for saving many lives. He displayed great courage and determination throughout. He has on many previous occasions done fine work.

THE PARIS CONFERENCE ON THE WAR CRIPPLE.

The Conférence Interalliée pour l'Étude de la Rééducation Professionnelle et des Questions qui Interessent les Invalides de la Guerre was held in Paris, in the Avenue d'Antin side of the Grand Palais, from May 8th to 12th. That all sections of French society realise the national importance of the questions to be discussed was shown by the presence of labour leaders, socialists, heads of industrial concerns, agricultural syndicalists, lawyers, and deputies, as well as members of the medical and military professions and a fair sprinkling of disabled soldiers.

Delegates.—Official delegates were sent by each of the Allied Governments. The British delegates were: Lieutenant-Colonel Sir Arthur Griffith-Boscawen, M.P., Parliamentary secretary to the Ministry of Pensions; Major-General Russell (representing Sir Alfred Keogh); Sir Charles Nicholson, M.P., chairman to the Disablements Subcommittee of the London War Pensions Committee; Colonel E. A. Stanton, C.M.G., of the Statutory Committee; Colonel Stewart, representing the British Red Cross Society; Lord Charnwood, Comité Anglo-Belge; Lieutenant-Colonel Sir Berkeley Moynihan, C.B., M.S., F.R.C.S., R.A.M.C.; Major Robert Mitchell, Adviser to the Minister of Pensions on Training; Fleet-Surgeon Percy H. Boyden, R.N.; and Lieutenant-Colonel Finlay, C.A.M.C., and Captain C. McClure, C.A.M.C., representing Canada. The English members attending the Conference were Lieutenant-Colonel Sir Thomas Oliver, Colonel J. Wallace, Colonel J. Cowen, Colonel J. Reed, and Mr. Samuels.

Organisation.—The Conference was organised by a Franco-Belgian committee under the presidency of Baron de Brocqueville, the Belgian Minister of War; M. Léon Bourgeois, the French Minister of Labour; M. Justin Godart, head of the French Army Medical Service; and M. Roden, Under Secretary of Labour; and was formally opened on Tuesday, May 8th, in the presence of the President of the French Republic. The members were divided into six sections, classified by the questions to be discussed and meeting at the same time in different rooms. While this plan facilitated the covering of much ground in a short time the drawback was only seen at the general meeting of all the sections at the end of the Conference, when it was found that the questions discussed were so interrelated that not only had it been possible for some of the sections to arrive at different conclusions as to the same subject, but that three or four had made the same recommendation in different terms. Since many of the 80 decisions voted will have to be re-edited to avoid repetition, it was finally decided not to publish any of them for the present. Some of the most important points dealt with may, however, be noted.

Work of Sections.—The first section, presided over by Senator Mélis, Inspector-General of the Belgian Medical Service, discussed physical re-education from the point of view of—(*a*) physiotherapy and medical gymnastics; (*b*) artifical limb appliances; and (*c*) work as an agent of physical restoration.

(*a*) The Belgian school of treatment, voiced by Dr. Marneffe, director of the Belgian Military Hospital of Bonsecours at Rouen, is in favour of Swedish methods of gymnastics and massage, and inclined to the use of mecano-therapic apparatus of the Zander type. This view was not shared by the majority of his colleagues, and it was decided to develop on lines not necessarily Swedish. The omission of any paper on X ray and hot-air treatment was commented upon by M. Laborde and Dr. Zimmern. "La gymnastique médicale" applied to men suffering from lung wounds was advocated by Dr. Philippe Tissié, of Pau, and an interesting paper by Dr. Schaer, of the Hôpital du Grand Palais, demonstrated the cure of muscular contraction in less than 15 days by a course of "mobilisation rééducative." Dr. Larat and Dr. Billiard insisted on the importance of electro-diagnosis in nerve wounds, particularly in view of the patients' future, as they must be enabled to work while undergoing treatment.

(*b*) The question of prothesis is a complex one in France, but as the difficulty is more or less a domestic one it does not greatly affect the other Allies, and the recent establishment of a Commission by the Service de Santé will doubtless solve the problem. Professor Putti, of Bologna, upheld the employment of the so-called "American" artificial limb, but many of the French surgeons prefer their own types. Some of these are very much cheaper than the English ones, but it is not yet possible to judge of their lasting qualities.

(*c*) Sir Berkeley Moynihan briefly described the system for orthopædic treatment of the wounded in the British Isles. He pointed out that many of the conditions now

needing treatment could be prevented by timely attention to sound principles. Joints in which ankylosis was inevitable could be fixed at better angles. Joints whose nerve-supply was severed might be kept supple, and tendons might be spared the overstretching of their fibres, from which recovery was so difficult. The various forms of treatment at orthopædic centres and in "curative workshops" attached to them necessitate constant control by the surgeon. Instruments of the Zander type were chiefly useful when looked upon either as mechanisms to be worked by the injured member rather than as a means whereby joints were quietly rocked by the agency of a sound limb, or as preparatory to or auxiliary to those purposeful exercises in which the patient had something to see and show as a result of his labours. The importance of the fact that a man's mind as well as his muscles should be engaged in the task of restoring function was pointed out. In the curative workshops a patient quickly regained self-reliance when he found himself once more a useful working member of society.

The chances open to the discharged disabled soldier in the labour market were discussed, and the relations of the Pensions Ministry to these problems briefly reviewed. The paper ended with a tribute to the constant help given to orthopædic work by the British Red Cross Society and by their representative, King Manuel of Portugal.

Among the suggestions made in Section I. were several concerning the class of agricultural labourers, which is far larger in France than in England. It was felt that any organisation to further functional restoration by means of agricultural work should pay great attention to special conditions of each region, and not form any stereotyped plan. It was also pointed out that (1) any work undertaken as auxiliary to physio-therapic treatment should be chosen by the medical director and remain under his close surveillance; (2) such work should be made obligatory in all physio-therapic institutions; (3) schools for functional restoration should be placed under the single control of the Service de Santé; (4) schools for professional re-education should be directed by a committee representing (*a*) medical men, (*b*) employers, (*c*) skilled workmen, (*d*) labour unions.

A paper was read by Captain C. McClure describing the treatment given at the Canadian Hospital at Ramsgate, and another on Les Appareils de Prothèse was sent in by MM. Rieffel and Gourdan.

Section II.—In this section, presided over by Dr. Bourillon, the director of the well-known Institut National Professionnel des Invalides de la Guerre at St. Maurice, there was much discussion as to whether the doctor or the instructor should have more authority over the disabled. The opinion was expressed that doctors should direct the industrial work and teachers should execute it. A Portuguese delegate opposed this idea on the ground that, generally speaking, doctors were not sufficiently trained to carry out the education of the maimed, but should limit themselves to advising what kind of work they could do. Mistakes had been made, and men had been obliged to change their occupation. In view of the fact that overcrowding in one trade in certain localities may occur, as at Bordeaux, where the majority of the disabled have chosen commercial occupation, an inquiry was advised as to the losses sustained through the war in each trade, so that an equilibrium may be maintained in filling the gaps. Men wishing to take up a non-manual occupation should be examined as to capacity. It was also pointed out that there was a wide field for training men in the mechanism and working of agricultural motor tractors, which can be used all the year round in the French and Belgian villages for different purposes. The establishment of a permanent inter-Allied committee to keep in touch with and disseminate news of the work done for the disabled in all the Allied countries was voted for in this as well as in several other sections.

Section III.—This section, under Senator Bérenger and Sir Thomas Barclay, discussed the placing of the disabled in civil life. Here, again, the different conditions obtaining in England and France gave this problem rather a personal flavour. The creation last year of l'Office National des Mutilés et Reformés de la Guerre, under the joint direction of the Ministries of Labour, War, and Interior, does not seem to have smoothed out all difficulties, since one of the changes most ardently demanded in this section was unification of the employment bureaux for agriculture, industry, and commerce, the same bureau to serve both for disabled and valid men. Even though France, having had a greater number of men first in the field, and consequently a greater number of casualties, has felt the pressure of this problem before England, the opinion of the section seemed to be that it had been more carefully thought out in England. Lord Charnwood explained the English expedient of the creation of a Ministry of Pensions to solve this difficulty instead of leaving it to be shunted about between three Ministries as in France. Another point commended by the French members of this section was the creation by the Ministry of Labour at the request of the Ministry of Pensions of joint committees of masters and men to settle such questions as rates of pay for the disabled. Lord Charnwood also explained that local organisations under the Ministry of Pensions have been constituted to deal with all the various requirements now occupying the attention of this section. One of the duties of these local committees in the neighbourhood of a hospital is to get in touch with the men before they are discharged and do everything possible in the way of interest and influence to help them to make the best of their lives The French members, who are keenly alive to the difficulty of dealing with men whose mental outlook has been affected either by their sufferings or by the enervating conditions of hospital life, were particularly appreciative on this point.

Section IV.—This section was concerned with the economic and social interests of the disabled. Among the papers read and discussed was one by the President of the Section, General Malleterre, who advocated the reorganisation of the Hôtel des Invalides for the reception of a number of war pensioners incapable of earning their living. The report prepared by Major Robert Mitchell pointed out the results of the system recently adopted in England—that the ultimate decision as to his future was left to the man himself; that instruction was given according to the needs of the different localities; that institutional workshops had been created specially for men incapable of competing with valid men, &c. The section voted for the creation in the other Allied countries of such special workshops as those existing in England.

Section V.—This section met to discuss the difficulties of the blind, the deaf, and the nerve cases. Under the presidency of M. Brieux, of the Académie Française, several interesting votes were taken after discussing papers by Dr. F. Chavanne de Lyon, Médecin-Major Jean Camus, Médecin-Major Roussy, and others. Among the measures voted for were those concerning the pre-re-education, the re-education, and the return home of the blind soldier. As far as possible it is proposed to carry out the treatment of the blind on the lines first laid down by Saint Louis when he founded the Hospice des Quinze-Vingts and allowed his blind beggars to live there with their families. Husbands and wives are not to be separated, but lodgings are to be found for them near their work.

Section VI.—The work of this section was concerned with the documentation and propaganda of matters relating to the disabled. Here, too, a vote was given for the formation of a permanent Central Inter-Ally Committee to hold all documents and information as to steps taken in different countries at the disposal of inquirers. The greatest interest was shown by the President of the section, M. Honnerat, and the other members in the accounts of English methods of dealing with the return of the disabled soldier to civil life, and especially the liberal financial provisions for men undergoing training and treatment, given by Sir Arthur Griffith-Boscawen and Sir Charles Nicholson, who had concisely detailed the measures taken by the Government in the questions of pensions, re-education, &c. The published report made by Sir Alfred Keogh, and included in the brochure of the collected reports which had formed the basis of the discussions, was studied by the members of all sections. The following resolutions were passed at the last meeting of the section:—

1. That since the question of the disabled as to pensions, professional re-education, placing, and social protection is common to all the countries of the Entente, and that it is to the interest of each of these countries to seek a solution that will be the logical result of the experience gained; that since this result can only be obtained by the organisation of an inter-allied bureau of documentation in the matter; that while waiting for the creation of such bureau through the coöperation of the Governments interested, the Direction of the General Statistic Department of France be at once charged to gather such documents with a view to publishing and communicating to Allied countries such details on each question as may be asked.

2. (*A*) That an active and coördinated propaganda should be organised in each of the Allied countries by tracts, addresses, lantern

lectures, meetings, &c.: (1) To make known in all parts of the country the resolutions adopted by the Inter-Allied Conference; (2) to make the disabled understand the reasons that determined these resolutions, as well as the advantages to be gained for them and for the country; and (3) to combat opposition tendencies and open or secret opposition propaganda. (*B*) That in order to facilitate professional re-education (1) the authorities undertake the expense of this re-education as well as the maintenance of the disabled man and of his family during the course; (2) that a special propaganda should be carried out among the doctors and nurses of hospitals as well as in the institutions for re-education with a view to accentuate their effort to persuade the disabled to fit himself for work according to the resolutions of the committee with due attention to the normal outlets in each region. (*C*) That a permanent inter-Allied committee should be instituted to maintain the bonds that have been created by the Conference between the institutions and the people who have shared in the work and prepared the ulterior meetings.

Exhibition.—Not the least interesting part of the Conference was the exhibition arranged in the galleries of the Grand Palais showing (1) charts, statistics and photographs of the different institutions for the disabled; (2) artificial limbs used in re-education, arms and hands for work purposes, instruments and tools adapted for use by the disabled; (3) inventions, games, modifications of tools and ingenious methods of relieving the helplessness caused by the loss of limbs. All the exhibits belonging to the French Army Medical Service or the institutions under its control are to be removed to the permanent war medical and surgical museum now installed in the Val-de-Grâce, and the manufacturers of the different prothesis appliances are to be asked to add where possible specimens of their work.

The proceedings of the Conference were varied by the visits of inspection paid by the members to the École d'Agriculture at Grignon, to the École Nationale de Ré-éducation at St. Maurice, and to the Belgian School for the disabled at Port Villez.

From the English point of view the great value of the Conference was confirmatory. Where methods sometimes differed slightly it was seen that each country was moving largely along the same lines only varied by local conditions. Many phases of the English problem differ from the French owing to the fact that the agricultural question is so much more important in France, where 40 per cent. of the men mobilised and 37·5 per cent. of the disabled belonged to the agricultural class.

While the French system of keeping the disabled under military authority until a complete cure is effected does away with the difficulty of after-treatment, in the matter of professional training they have to cope with the same difficulties.

Many of the discussions that took place were more or less of a domestic character, but the Portuguese, Serbian, Russian, Italian, and British members of the Congress listened to the Belgian and French problems with an interest which was, as M. Léon Bourgeois expressed it in his opening speech, a sign of "solidarité morale" among the Allies.

THE UNITED STATES AND MEDICAL ORGANISATION FOR THE WAR.

Hospital Staffs.—The Hospital Committee of the Council of National Defence has recommended general hospitals throughout the country, having a capacity of 100 beds or over, to reorganise their staffs in order to allow every available man to join the Medical Reserve Corps of the Army and Navy. The men selected to remain with their home hospitals will wear a badge to indicate that they are performing indispensable home service. The suggestion has been made to draw up a list of all available hospital accommodation at convenient points along the Atlantic and Pacific coasts and of special facilities for the treatment of neurological, orthopædic, and shell-shock cases.

Hospital Units for France.—Six base hospital units have been organised and notified to hold themselves in readiness to be sent to France within the next few weeks. They will be in charge of Dr. G. E. Brewer, Dr. George W. Crile, Dr. Harvey Cushing, Dr. Richard H. Hart, Dr. Frederick Besley, and Dr. Frederick T. Murphy. American surgeons for service with the Army in France will go as members of the medical corps of the United States Army. Each hospital unit consists of 23 medical men, 2 dentists, 65 nurses, and 150 enlisted men of the medical department. In addition to these units, which are each capable of attending to 500 men, the statement is again made that 1000 American surgeons are ready to put themselves at the disposal of the Allies in Europe.

The Supply of Medical Men.—As in this country, the question of emergency alterations in the medical curriculum is being considered. At a recent meeting of the General Medical Board of the Council of National Defence the question of keeping the medical schools of the country in continuous operation was discussed, and the State Boards of Medical Registration were asked to consider the recognition of the "continuous teaching plan" as an equivalent of the usual four-year course, as well as the recognition of various forms of substitute work.

THE EXCHANGE OF INVALID PRISONERS OF WAR.

A certain number of prisoners of war, both British and German, have been repatriated from their internment in Switzerland, but a good deal of disappointment is felt in this country that the number has been so small. Mr. Hume-Williams, whose question in the House of Commons gave expression to this feeling, evoked the reply from Mr. J. F. Hope, the representative of the War Prisoners Department, that the qualification for exchange from internment in Switzerland is the same standard of physical disability as that demanded in the case of men repatriated direct from prisoners' camps. This standard, as we saw in THE LANCET of April 29th and June 10th, 1916, is a high one, although it is not so high for men in the ranks as for officers. The loss of a limb in an officer, whether commissioned or non-commissioned, renders the prisoner eligible only for internment in Switzerland, whereas privates similarly mutilated are repatriated. Mr. Hope thought it unlikely that many of our interned men will qualify for repatriation under the present rules. As this would involve a considerable increase in disability, we can hardly wish them to do so.

THE TREATMENT OF MEN DISCHARGED FROM THE ARMY ON ACCOUNT OF NEURASTHENIA.

Provision is being made for the institutional treatment of men discharged from the Army on account of neurasthenia, shell shock, and allied nervous conditions, at a branch hospital attached to the Hospital for Epilepsy and Paralysis, Maida Vale. This hospital was founded 50 years ago for the treatment of a class of patient whose needs up to the present time have not been recognised by the State, and has accepted the responsibility for the treatment of functional nervous disorders arising in civil and industrial life. Since 1896 an attempt has been made with some success to act as third party between employer and employee under the Workmen's Compensation Acts. Light employment is the great desideratum for these cases, but in industrial life there is great difficulty in finding the suitable milieu to enable them to become fit or hardened before returning to employment. In the Army this need has been met by the institution of Command Depôts. A man broken by strain is more likely to break down when subjected to similar strain than when put to a changed mode of life, and experience has shown that cases of nervous breakdown previously engaged in professional or clerical work do well when sent to sea or on taking up farm work. The exigencies of the Service do not permit of such consideration of the individual being given prior to discharge, and hence invaliding is a necessary stage in the recovery of the neurasthenic. This has been recognised in the recent Military Service Revision Act, which excludes from its operation men suffering from functional nervous disorders. These pensioners nevertheless require an environment suitable for the restoration of their mental powers, which demands suitable oversight and stimulating interests. A careful study has to be made of the previous life, interests, and ability of the patient, as well as of the stock from which he came. At "Highfield," Golder's Green, the new branch of the Maida Vale Hospital, only selected cases of patients suffering from functional nervous disorders are to be admitted. The institution occupies the buildings of a former well-known girls' school, and contains accommodation for 150 persons, including 35 single-bed wards. A gymnasium is provided, surrounded by large well-wooded grounds. The facilities offered include: (1) Isolation beds with provision for local and general massage, and the application of modern electro-therapeutic treatment; (2) a gymnasium equipped for physical drill and Swedish exercises; (3) a range of workshops; (4) organised games with instructors;

(5) personal contact with a trained staff; (6) an employment bureau and after-care in conjunction with the Local Pension Committee. Generous terms have been granted by the Ministry of Pensions, so that all who enter the hospital will receive a pension, while the wives and children of married men draw separation allowance.

THE Naval Hospital, Truro, has received the sum of £50, being a portion of $500,000 recently raised by means of a bazaar at Chicago.

THE President of the French Republic has appointed Surgeon J. D. Milligan, R.N., to be a Chevalier of the Legion of Honour.

THE SERVICES.

ROYAL NAVAL MEDICAL SERVICE.

Surgeon-General William H. Norman, C.B., has been appointed to succeed Surgeon-General Sir Arthur W. May, K.C.B., as Director-General of the Medical Department of the Navy from June 1st, 1917, and has been granted the relative rank of Vice-Admiral.

Surgeons to be Staff-Surgeons: H. F. Briggs, M. P. Fitzgerald, A. G. Malcolm, H. C. Devas.

To be temporary Surgeons: M. McKerrow, R. N. B. McCord, S. L. Higgs, and A. J. Mulrhead.

The following appointments have been notified:—Fleet-Surgeons: R. M. Richards to *Powerful*: R. F. Clark to *Vivid*; and C. J. E. Cock to *Suffolk*. Staff-Surgeons: D. H. C. Given and R. M. Riggall to *Donegal* and *Hearty* respectively. Surgeon: P. B. Wallis to Portland Hospital. Temporary Surgeons: A. P. Barrett, F. G. Lloyd, and K. H. McMillan to *Victory*: R. N. B. McCord to Haslar Hospital; M. McKerrow to Chatham Hospital.

ARMY MEDICAL SERVICE.

Lieut.-Col. C. H. Howkins to be temporary Colonel whilst holding the appointment of Assistant Director of Medical Services.

Lieut.-Col. A. L. A. Webb, C.M.G., to be an Assistant Director-General (temporary).

ROYAL ARMY MEDICAL CORPS.

Lieut.-Col. H. J. Hargrave, Suffolk Regiment (T.F.), to be temporary Lieutenant-Colonel.

To be acting Lieutenant-Colonels whilst in command of a Field Ambulance: Majors: E. E. Powell, H. W. Russell, and A. W. Gibson. Captains: T. J. Mitchell, J. W. L. Scott, and G. P. Taylor.

To be acting Lieutenant-Colonels whilst in command of a General Hospital: Majors J. G. Foster, J. F. Whelan, and Capt. C. E. H. Milner (T.F.).

The undermentioned are granted temporary rank: As Lieutenant-Colonel: E. H. Taylor, A. R. Parsons. As Major: W. A. Winter, R. C. B. Maunsell, K. E. L. G. Gunn. As Captain: W. Boxwell, C. E. Boyce, F. H. McJ. C. Crawley, E. J. M. Watson.

Temporary Majors to be temporary Lieutenant-Colonels whilst employed at hospitals as stated: H. W. Bruce, Southwark Military Hospital; J. H. Brooks, Mile End Hospital; W. D. Buncombe, City of London War Hospital; W. Scatterty, Keighley War Hospital; F. S. Toogood, Lewisham Military Hospital.

Temp. Hon. Capt. M. Gamble to be temporary honorary Lieutenant-Colonel whilst serving with Withington War Hospital.

Major (Brevet Lieut.-Col.) H. J. Crossley to be acting Lieutenant-Colonel whilst in command of a Stationary Hospital.

Captains, R.A.M.C. (T.F.), to be temporary Majors: L. G. Parsons, G. P. Mills.

Capt. B. Biggar is seconded for service with Egyptian Army.

To be temporary Majors: W. A. Brend, F. L. Collie, J. Kerr, W. D. Knocker, Temp. Capt. H. F. Woolfenden, and W. E. N. Dunn (whilst employed at the Horton (County of London) War Hospital).

To be temporary Captains: Temp. Lieut. P. C. E. d'E. Wheeler and Temp. Lieut. G. de B. Turtle.

To be temporary Honorary Lieutenant: C. E. Fearn.

To be Lieutenants: V. T. Borthwick Yule and A. G. Lumsden (from Aberdeen University Contingent, O.T.C.), R. Lloyd-Jones and W. Christopher.

Officers relinquishing their commissions: Capt. T. E. Roberts (on account of ill-health caused by wounds; granted the honorary rank of Captain) and Temp. Lieut. D. E. H. Cleveland.

The undermentioned officers of the Canadian Army Medical Corps are appointed as follows:—Col. H. A. Bruce is seconded for service with the British Medical Services as a Consultant Surgeon.

To be temporary Colonels: Temp. Col. G. E. Beauchamp, Temp. Lt.-Col. H. A. Cuisholm, D.S.O., and Temp. Lt.-Col. H. A. Bruce.

To be temporary Lieutenant-Colonels: Temp. Maj. W. T. Connell, Temp. Maj. J. R. Spires, Temp. Lt.-Col. K. D. Panton, Temp. Maj. C. H. Reason (while specially employed).

To be temporary Majors: Temp. Capt. J. N. Gunn, Temp. Maj. G. E. Gillies, and Capt. T. H. McKillip, D.S.O.

Temporary Captains to be temporary Majors: G. R. Kidd, S. M. Polson, W. H. Ballantyne, J. P. Quigley, G. A. Platt, W. F. Nicholson, and N. J. Barton.

G. W. Badgerow to be temporary Honorary Major.

To be temporary Captains: C. A. Yates, J. W. Begg, Temp. Capt. F. H. H. Mewburn, F. X. O'Connor, G. E. Millette, C. G. Main, A. D. Campbell, C. R. Wallace, Temp. Lieut. R. H. Bonnycastle, Temp. Lieut. E. V. Frederick, and Temp. Lieut. G. S. Gordon.

To be temporary Lieutenants: C. A. Brisco, B. E. Scott, C. M. Keiller, R. B. Martin, M. E. Gorman, H. W. Whytock, D. A. Murray, H. McKinnon, W. J. Bell, A. R. Mann, and L. D. Orr.

Temp. Maj. J. N. Roy resigns his temporary commission.

The undermentioned officers of the Canadian Army Dental Corps are appointed as follows: Temporary Captains to be temporary Majors: J. E. Holmes, W. J. Bentley, W. R. Greene, A. E. Mullin, G. N. Briggs, L. N. Trudeau, G. H. A. Stevenson, J. F. Blair, G. S. Cameron, C. E. Brown, and O. A. Elliott.

To be temporary Captain: L. R. Dufresne.

To be temporary Lieutenants: A. C. Steele, J. W. McDonald, and A. G. Lough.

SPECIAL RESERVE OF OFFICERS.

Lieutenants to be Captains: G. H. Barry, C. P. L. Carrier, F. G. L. Dawson, R. R. Scott, M. C. Cooper, D. H. Anthony, J. J. Murphy, and A. G. Harsant.

To be Lieutenants: D. C. Beaumont, C. V. Pink, H. W. Leatham, W. G. Woolrich, J. E. Carpenter, E. B. Andreae, A. G. E. Wilcock, J. B. S. Lewis, and T. Hawke McLeod (from the University of London Contingent O.T.C.), C. C. Chesterman (from Bristol University Contingent O.T.C.), and J. C. Collins.

TERRITORIAL FORCE.

Captain J. D. Allen, from Territorial Force Reserve, to be Captain.

Major D. L. Fisher to be acting Lieutenant-Colonel whilst commanding a Field Ambulance.

Major D. W. Patterson to be acting Lieutenant-Colonel whilst holding the appointment of Administrator.

Captain W. T. Harkness to be acting Major whilst holding the appointment of Registrar.

The undermentioned Lieutenants to be Captains: A. C. Bescoby and M. Wilson.

To be Lieutenant: J. H. Churchill (from Territorial Force Reserve).

VOLUNTEER FORCE.

H. Chadwick, 11th Battalion, Lancashire Volunteer Regiment, to be temporary Captain and Medical Officer.

NEW MEDICAL LEGISLATION IN SOUTH AFRICA.

A South Africa Correspondent writes as follows: The Union Government has introduced a Medical, Dentistry, and Pharmacy Laws Consolidation Bill into the South African Parliament, and at the time of writing it has passed a second reading in the Senate and been referred to a Select Committee of that House. The Bill was introduced into the Senate by the Minister of the Interior (Sir Thomas Watt), who moved its second reading on March 19th. The Bill is styled a Bill for the purpose of consolidating and amending the laws in force in the Union relating to medical practitioners, dentists, chemists and druggists, midwives, and trained nurses; the keeping and sale of poisons; the importation, sale, and use of habit-forming drugs; and other matters relating thereto. It was introduced first in the Senate, and not, as is usual, in the House of Assembly. Sir Thomas Watt said that the Bill was intended to protect the public and the profession against improperly qualified practitioners, and also to apply the principle of reciprocity as between the Union of South Africa and other countries granting medical degrees and, of course, recognising the medical diplomas granted by British universities. There was nothing in the Bill to prevent storekeepers in South Africa from selling sheep dips or even patent medicines, provided that there was no chemist within five miles. Any storekeeper could, of course, sell patent medicines that did not contain poison. The farmers' coöperative societies would be allowed to sell certain poisons to their members. Dealing with novel features of the Bill, Sir Thomas Watt said that a new principle had been introduced, to the effect that the seller of poisons must add a leaflet showing the antidotes to such poisons should they be taken in mistake. Restrictions were placed by the Bill on the sale of drugs producing evil habits. A difficulty had arisen in dealing with "dagga" smoking amongst the natives, as the herb grew wild in many parts of the Union. One subject dealt with in the Bill was the grievance that some medical practitioners who could practise in the Orange Free State and the Transvaal were debarred from doing so in the Cape and Natal, owing to the absence of reciprocity respecting foreign diplomas and degrees. The South African Union was making arrangements for a three-year medical course, and in due time, the Minister said, they would have a full medical course in South Africa. At present the course had to be completed elsewhere. The registration fee for a medical practitioner, £25, was rather high, but the wish was to make the Medical Council self-supporting. A pharmacist would pay £12 10s. Sir John Fraser thought that the Government should schedule in the Bill foreign diplomas which would not be accepted. Sir Meiring Beck, replying to the suggestion of scheduling, said that medical schools were changing every day. They could not, therefore, adopt a cast-iron system, but must adapt themselves to change of circumstances. He pointed out that the Medical Council of Great Britain, which had worked smoothly for many years, was constituted exactly as that proposed in the Bill.

Dr. E. Graham Little has been elected by his fellow graduates in medicine and surgery of the University of London to fill his fourth term of office (1917–1921) as their representative on the Senate of the University.

Correspondence.

"Audi alteram partem."

THE TREATMENT OF AMŒBIC DYSENTERY.

To the Editor of THE LANCET.

SIR,—In your issue of July 29th, 1916, you published a note by me on Treatment of Carriers of Amœbic Dysentery, in which I gave reason for supposing that the double iodide of emetine and bismuth would be useful in such cases, and recorded some preliminary results obtained by those who were giving the suggestion a clinical trial. Since then several reports have been published on the action of this compound, and these have, on the whole, so strengthened the preliminary impression formed of its probable value that its use, at any rate in the immediate future, seems likely to be extensive.

My own connexion with the matter has been slight, but I appear to be primarily responsible for a historical injustice, the rectification of which is my object in writing to you now. My note of July, 1916, referred to a paper published in 1915 by Du Mez, in which the double iodides of emetine with bismuth and with mercury were described, and their use suggested to ensure the passage of emetine through the stomach and its gradual liberation in the intestine. I was at that time quite unaware of the fact, which Du Mez also had evidently overlooked, that a compound of this kind had been prepared as long ago as 1891 by the late Major Warden, I.M.S., and an account of its use in the treatment of dysentery published in the same year by Surgeon-Captain Tull Walsh, I.M.S. (now Lieutenant-Colonel, retired) in the *Indian Medical Gazette* (vol. xxvi., p. 269, 1891). The "emetine" of those days was an impure mixture of the alkaloids of ipecacuanha, and the differentiation of amœbic from bacillary dysentery was then still a matter of dispute. But by careful clinical observation of cases of "acute dysentery" Captain Walsh established two points: firstly, that the curative effect of ipecacuanha in dysentery was due to its alkaloids (the "emetine" of that date), the drug being inert when freed from these completely; and, secondly, that the "emetine" could be effectively administered for this purpose by the mouth in the form of its double iodide with mercury. In the one case he clearly anticipated the discoveries made 20 years later by Vedder and by Rogers, though the intervening development of chemical and protozoological knowledge gave a greater precision to their observations; in the other case he even more definitely anticipated, by a quarter of a century, what we have been regarding as a recent development of the emetine treatment.

I need hardly point out that this acknowledgment affects only my own small and secondary share in the introduction of emetine bismuthous iodide into practice, and in no degree affects the credit due to those whose patience and skill, whether in ward or laboratory, have demonstrated the value of this compound in conditions which the hypodermic method often fails to cure. Their work has, of course, been largely concerned with infections which the methods of 1891 could not have detected at all.

I should add that Colonel Walsh has had no part in this attempt of mine to repair the injustice of failing to mention his observation of so many years ago. I wrote to him when I discovered it; and, in a letter of most kindly encouragement which he sends me in reply, he expresses his own attitude as follows: "So long as good work is done I do not care who does it."

I am, Sir, yours faithfully,

May 7th, 1916. H. H. DALE.

BLACKENING OF TETANUS CULTURES.

To the Editor of THE LANCET.

SIR,—In your issue of May 5th Mr. R. S. Adamson and Mr. D. W. Cutler in their paper, entitled "Note on a Bacillus resembling *B. tetani*," quote my statement that *B. tetani* produces blackening in meat medium. I should be glad if you would allow me the courtesy of your columns to correct this statement which is an error on my part. The tetanus culture which I described was later found to be contaminated with a proteolytic organism. At the time of writing, although I was alive to the difficulty of obtaining anaerobes in pure culture from wound material, I was not prepared to find that the same difficulty would arise in dealing with laboratory tetanus cultures of long standing. The reactions of this impure culture agreed with the account of *B. tetani* given by v. Hibler and with that of v. Lingelsheim in Kolle and Wassermann's edition of 1912 I am engaged in investigating various tetanus cultures, with results which will be published in due course. I am not at present quite prepared to state what the cultural reactions of a pure tetanus culture are, but I have found that tetanus cultures, when freed from this foreign proteolytic organism, do not cause blackening of the meat medium.

I am, Sir, yours faithfully,

MURIEL ROBERTSON.

Lister Institute of Preventive Medicine, Chelsea, S.W., May 9th, 1917.

WHOLE-TIME APPOINTMENTS AND THE POSITION OF TEMPORARY MEDICAL OFFICERS IN THE NAVY OR ARMY.

To the Editor of THE LANCET.

SIR,—Since August, 1914, a number of vacancies caused by death or resignation has occurred in the Public Health Service. At many places temporary appointments only have been made, and the posts are to be advertised and duly filled up permanently when this great war is at an end and competition will be unrestricted.

However, some whole-time places have been permanently filled by men "on the spot." Is this fair or just to those who have joined up to serve our King and country and so have no chance of competing for these posts?

There is no credit attached to men who obtain places for which probably they would have had no selection if pre-war conditions existed, and they had had to range themselves against men better qualified for important work than these interlopers are.

I hold strongly that the Local Government Board ought not to penalise patriotism by approving any appointments in the public health or school medical or Poor-law medical services except temporarily and only for the duration of the war. I have reason to know that this neglect of their interests is giving rise in certain instances to considerable dissatisfaction amongst medical men serving abroad.

I am, Sir, yours faithfully,

May 7th, 1917. "FAIR PLAY."

Medical News.

ROYAL COLLEGES OF PHYSICIANS OF LONDON AND SURGEONS OF ENGLAND.—At a meeting of Comitia of the Royal College of Physicians of London on April 26th and of the Council of the Royal College of Surgeons of England on May 10th, diplomas of L.R.C.P. and M.R.C.S. were respectively conferred upon 103 candidates—93 men and 10 women—who have passed the Final Examination of the Conjoint Examining Board and have complied with the by-laws of each College. The following are the names and medical schools of the successful candidates:—

Gustave Adler, London; Ewart Gordon Anderson, New Zealand and London; Eric Burn Andrese, Otago and London; Philip Ardern Ashcroft, Manchester; Eric Victor Beale, Cambridge and London; Douglas Charles Beaumont, Cambridge and London; Wilfrid Thomas Beswick, Cambridge and St. Thomas's; Alethea Josephine Bolton, Birmingham; Alfred Octavius Bolton, St. Bartholomew's; Alfred Henry Boon, Chicago; Marian Noel Bostock, St. George's and Royal Free; Ernest William Bowell, Guy's; James Bassett Brash, Cambridge and St. Bartholomew's; Israel Braun, St. Bartholomew's; Edward Davenport Broster, Cambridge and University College; Donald Cameron, St. Bartholomew's; Oliver St. Leger Campion, Guy's; James Edwin Carpenter, London; Kathleen Lydia Cass, Manchester; Harold Chadwick, Cambridge, St. Bartholomew's, and Manchester; Clement Clapton Chesterman, Bristol; Henry Joseph Constantine Churchill, St. Bartholomew's; Stella Churchill, Royal Free; Antonio Mario Clément, St. Thomas's; Geoffrey Francis Cobb, St. Bartholomew's; Joseph Clinton Collins, London; Rupert Shelton Corbett, Cambridge and St. Bartholomew's; Ralph Coyte, St. Bartholomew's; William Cramer, Edinburgh and University College; Thomas Morley Cunnington, University College; Peter Gerald Stevenson Davis, St. Thomas's; Howard Lexster Douglas, London; Frances Jane Du Pré, Manchester and Charing Cross; John Rosslyn Earp, Cambridge and University College; Mahmoud Erfan, Cairo and St. Bartholomew's;

James Fairbrother, Cambridge and London; Robert French, Cambridge and St. Bartholomew's; Philip Edward Francis Frossard, London; Hugh Gainsborough, Cambridge and St. George's; Lawrence Gill, Guy's; Henry Gluckman, London; Edward Francis Strathearn Gordon, Cambridge and St. Bartholomew's; Mendel Gourevitch, Paris and London; Grace Mary Gulston Griffith, University College, Cardiff, and Leeds; Leslie Briggs Hartley, Cambridge and St. Thomas's; Frederick John Harvey, Birmingham; Lily Fanny Harwood, Royal Free; Sydney Limbrey Higgs, Cambridge and St. Bartholomew's; Harold Whewell Hogarth Holmes, Cambridge and St. Thomas's; Cawas Homi, Bombay and Middlesex; Joseph Christopher Campbell Howe and George Raymond Hubbard, Guy's; Oscar Hyam Hymun, St. Thomas's; Karam Chand Jaiuka, Leeds and Bristol; Loiza Elwell Johnston, American Medical Missionary College; David Bruce Stewart Jones, Charing Cross; David Joseph Heritage Jones, St. Mary's; John Isaie Keen, Charing Cross; James Douglas Kenyon, Manchester; Hugh William Leatham, Cambridge and St. Thomas's; Harold Warburton Lewis, Middlesex; John Biddulph Strafford Lewis, Cambridge and St. George's; Isaac Jacob Lipkin, Liverpool; Evan Edwards Llewellyn, Cambridge and St. Bartholomew's; Leslie Grantham Lunnon, Middlesex; Thomas Hawks McLeod, St. George's; Arthur Neil McMillan, Middlesex; William Marriott, St. Thomas's; John Aston Martin, Cambridge and Guy's; Harold George Victor Mence, Birmingham; Frederick Maurice Mowly, Cambridge and London; Christopher Kilvinton Mowll, London; William Watson Newton, Birmingham; Arthur Leslie Packham, Middlesex; Alexander Edward Patrick Parker, Westminster; Andrew Harman Pearce, Cambridge and St. Thomas's; Cyril Valentine Pink, St. Thomas's; William Irving Fitzgerald Powell, London; Henry Norman Pritchett, Guy's; Walter Murad Abdul Rahman, University College; Ronald Eric Rampling, St. Thomas's; David William Ryder Richardson, Cambridge and London; Ralph Leslie Robinson and Arthur Rose Innes, University College; John Rowland, St. Thomas's; John Douglas Rutherford, Cambridge and St. Bartholomew's; James Jules Avit Scott, Birmingham; Norman Fairbanks Smith, Oxford and St. Bartholomew's; Eric Dickens Spackman, Cambridge and St. Bartholomew's; Meredith Blake Robson Swan, Cambridge and King's College; Ellen Sylk, Royal Free; Ronald Henry Tasker, Bristol; John Percy Reginald Tennekoon, Ceylon Medical College and London; Lewis Henry Douglas Thornton, Cambridge and Middlesex; Frederick FitzGerald Tisdall, Toronto; William James Walters, Cambridge and Guy's; Francis Eaton Gordon Watson, St. Bartholomew's; Winifred Hannah Wells, Sheffield; William Harold White, St. Thomas's; John Prichard Williams, University College Cardiff and Westminster; James Harry Wiseman, Sheffield and London; Leonard Heatley Woods, St. Bartholomew's; and William Grant Woolrich, Cambridge and St. Thomas's.

The Licence in Dental Surgery was also conferred upon Mr. Percy King, Guy's Hospital, who has passed the requisite examinations and complied with the by-laws.

EXAMINING BOARD IN ENGLAND BY THE ROYAL COLLEGES OF PHYSICIANS OF LONDON AND SURGEONS OF ENGLAND.—As the result of the Final Examination, held from April 10th to 27th, the following candidates were approved in the undermentioned subjects, but have not yet completed the examination:—

Medicine.—A. L. Abel, University College; K. A. Anklesaria, Bombay and London; H. C. Apperly, Middlesex; E. B. Ash, Birmingham; Ruth Balfour, Royal Free; N. A. H. Barlow, Guy's; G. Bourne, St. Bartholomew's; F. Cameron, Charing Cross; H. Carpenter, University College; O. C. Carter, London; Annie Clark, Sheffield; Ruth Eden Conway, Manchester; A. J. Copeland, Glasgow and St. Bartholomew's; H. Das, University College; W. L. de Silva, Liverpool; Phyllis Decima Dixon, Royal Free; H. B. Dodwell, Cambridge and University College; Constance Maude Edwards, Liverpool; M. Edwards, St. Thomas's; W. Eldridow, London; S. Ghosh, Royal Free; Alice Mary Ley Greaves, Royal Free; B. G. Harris, London; A. H. Hilmy, St. Thomas's; C. V. Isard, St. Thomas's; N. R. Jenkins, Westminster; D. J. A. Lewis, London; A. G. F. McArthur, Cambridge and St. Thomas's; Ruby Eva McBirnie, Liverpool; J. G. McCann, St. Thomas's; D. G. Macpherson, University College; Ethel Mary Mathews, Sheffield; P. N. Menon, University College; R. S. Millar and H. Millett, Guy's; E. W. Mottau, University College; Annie Shortridge Mules, Royal Free; F. C. Odling, Cambridge and St. Thomas's; S. W. Page, St. Bartholomew's; A. V. Pegge, Cambridge and St. Bartholomew's; W. E. Powell, Charing Cross; S. H. de G. Pritchard, London; H. Ratnarajah, St. Mary's; F. N. Reynolds, St. Thomas's; S. Riddiough, Cambridge; Sophie Sarah Rosenberg, Royal Free; Helen Roth, Birmingham; H. Rowan, University College; J. F. Ryan, St. Thomas's; S. Sacks, London; Eleanor May Scarborough, Royal Free; K. L. Singer, Middlesex; B. L. Skeggs and P. A. Smuts, St. Bartholomew's; R. C. W. Staley, Guy's; C. M. Titterton, St. Bartholomew's; A. R. Tothill, Charing Cross; D. J. Valentine, London; J. A. van Heerden, St. Bartholomew's; J. Victory, Guy's; C. H. Warner and R. E. S. Webb, Middlesex; A. S. Westmorland, St. Mary's; A. Winfield, Cambridge and Liverpool; and E. B. Woolf, London.

Surgery.—E. Ahmed, London; R. D. Aylward, London; F. E. Benhix, Middlesex; J. A. Birrell, Cardiff and St. George's; A. G. Brett, Liverpool; W. B. Buer, Guy's; F. W. Chamberlain, Middlesex; Florence Marjory Edwards, Royal Free; J. S. Eloff, Cambridge and St. Thomas's; Eryl Glynne, Royal Free; J. Hale, Cambridge and St. Thomas's; Bertha Hinde, Royal Free; E. C. Hinde, Guy's; J. M. Hughes, Middlesex; Emily Catherine Lewis and Marguerite Frances Jane Lowenfeld, Royal Free; K. McFadyean, University College; H. M. Menage, St. Bartholomew's; A. K. Menon, Madras and London; P. D. J. Milanius, Ceylon and Middlesex; H. Morris-Jones, Liverpool; J. W. M. Nicholl, Cambridge and Middlesex; H. Palmer, London; E. R. Peirce, Birmingham; A. R. Poduval, Madras and St. Bartholomew's; H. J. R. Surrage, Cambridge and King's College; C. M. Titterton, St. Bartholomew's; G. H. Ward, Cambridge and St. Thomas's; and G. Zachariah, Madras.

Midwifery.—C. W. W. Armstrong, Guy's; E. B. Ash, Birmingham; K. E. Attenborough, St. Mary's; R. D. Aylward, London; R. W. C. Ball, Middlesex; E. R. Batho, St. Bartholomew's; G. E. Birkett, Cambridge and Manchester; J. W. Brash, St. Mary's; E. H. Bryant and A. Bulleid, Guy's; F. Cameron, Charing Cross; Annie Clark, Sheffield; W. E. L. G. Clark, St. Thomas's; B. S. Collings, University College; O. F. Conoley London; C. G. S. Corner, University College; Dorothy Trevor Daintree, Royal Free; E. S. Davies, Westminster; W. L. de Silva, Liverpool; Phyllis Decima Dixon, Royal Free; C. L. Donne, Middlesex; F. B. Dutton, St. Thomas's; Constance Maude Edwards, Liverpool; Florence Marjory Edwards, Royal Free; M. Edwards, St. Thomas's; S. el D. A. El Daab, Cairo and St. Bartholomew's; J. S. Eloff, Cambridge and St. Thomas's; J. C. Gle, Guy's; E. H. Glenny and L. C. Goument, St. Bartholomew's; Lilian Maud Griffiths, Royal Free; A. G. Hewer, Middlesex; Bertha Hinde, Royal Free; E. A. Holmes, King's College; P. G. Horsburgh, St. Bartholomew's; J. F. Howells, University College; H. B. Jackson, Cambridge and St. Bartholomew's; M. Jackson, St. Barthomew's; G. H. Johnson, Middlesex; W. A. Jolliffe, St. Bartholomew's; A. K. I. Jones and J. W. Jones, Middlesex; H. C. C. Joyce, St. Bartholomew's; N. Kamchorn and C. H. Laver, Guy's; Ruby Eva McBirnie, Liverpool; K. McFadyean, University College; H. I. Marriner, St. Thomas's; H. Millett, Guy's; D. C. Mintzman, King's College; F. Morcos, St. Mary's; H. Morris-Jones, Liverpool; G. E. Mullins, Birmingham; J. G. Nel, Charing Cross; W. P. Nelson, Birmingham; G. Nootl, Guy's; F. C. Odling, Cambridge and St. Thomas's; M. J. Panthaky, King's College; C. S. Parker, Charing Cross; Irene Grace Parsons, Royal Free; J. C. Pauw, London; R. W. Payne, Charing Cross; C. F. Rainer, London; C. G. J. Rayner, St Bartholomew's; Joyce Baron Reed, Royal Free; Helen Roth, Birmingham; H. B. Russell and K. Sahib, St. Thomas's; M. Sarkies, Middlesex; J. J. Savage, St. Bartholomew's; H. M. Savery and W. M. Savery, Middlesex; Charlotte Annie Shields, Royal Free; A. T. Spoor, Cambridge and St. Thomas's; F. H. Stuttaford, St. Mary's; P. W. Symons, Middlesex; N. B. Thomas, St. Bartholomew's; J. A. van Heerden, St. Bartholomew's; G. Verghese, St. Andrews University; J. Victory, Guy's; P. E. Williams, St. George's; A. Winfield, Cambridge and Liverpool; and S. T. Wong, Guy's.

ROYAL COLLEGE OF PHYSICIANS OF LONDON.—An extraordinary Comitia was held on May 10th, Dr. Frederick Taylor, the President, being in the chair. The following, elected to the Fellowship at the last meeting, were admitted to the College: Dr. R. H. Cole, Dr. D. N. Nabarro, Dr. H. W. Gardner, Dr. R. H. Miller, Dr. P. W. Saunders, Dr. W. E. Hume, Dr. H. MacCormac.—Licences to practise physic were granted to two candidates who had passed the required examination, their names not being included in the list submitted to the last meeting of the College.—A report from the Censors' Board concerning the will of the late Samuel Mathias Carl, advising the College to decline the bequest offered, was received and adopted after some discussion.—The Streatfield Research Fund Committee presented a report embodying a scheme for the administration of the Trust, which was adopted.—The Committee of Management having considered the proposal referred from the last Comitia concerning the suspension of the Regulations that students should attend systematic courses of lectures, reported as follows:—

> The Committee of Management beg to recommend to the Royal Colleges that, in consideration of the urgent conditions resulting from the war, Paragraph XIV., Clause 2 (*a*) and (*b*), and Paragraph XXI., Clause 1 (*a*) to (*g*), Section II of the Regulations of the Examining Board in England, which require attendance on systematic courses of lectures, be not enforced for the present.[1]

This was agreed to.—A further grant of money was voted towards the expenses of the Committee of Reference.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.—An ordinary meeting of the Council was held on May 10th, Sir William Watson Cheyne, the President, being in the chair.—Mr. Ernest W. Hey Groves was introduced and the President handed to him a cheque for £15, the Jacksonian prize for the year 1916, together with a document declaratory of the award.—It was resolved to grant diplomas of Membership to 103 successful candidates.—In accordance with a report from the Committee of Management it was resolved:—

> That in consequence of (1) the depletion of the staffs of the hospitals and medical schools, (2) the reduction in the number of students, and (3) the amount of time necessarily devoted by students in their fourth and fifth years to practical clinical work owing to the shortage of resident medical officers, the regulations requiring attendance on systematic courses of lectures be not enforced for the present.[1]

The President reported that he had appointed Mr. William F. Haslam the representative of the College on the Medical Board of the University of Wales for three years.

At the Primary Fellowship Examination held on May 2nd, 3rd, and 8th, 30 candidates presented themselves, of whom 12 were approved and 18 were referred. The following are the names and medical schools of the successful candidates:—

Alberto Henrique Ferreira Bizarro, Lisbon University and University College; Reginald Stafford Foss, St. Thomas's; Lionel George

[1] The courses of lectures referred to are those on Anatomy, Physiology, Medicine, Surgery, Midwifery, Pathology, Pharmacology and Therapeutics, Forensic Medicine including Insanity, and Public Health.

Higgins, Cambridge and St. Thomas's; Thomas Ernest Victor Hurley, Melbourne; Roy Russell Kerr, Edinburgh and King's College; Vasant Ramji Khanolkar, University College; Fede Margaret Mackenzie, Royal Free; Kenneth Holl McMillan, St. Thomas's; Charles Dundas Maitland, St. Thomas's; Maurice Marcus, London; Neil Frederick Sinclair, London; and Man Wong, St. Thomas's.

ROYAL COLLEGE OF SURGEONS OF EDINBURGH.—At a meeting of the College held on May 15th the following gentlemen, having passed the requisite examinations, were admitted Fellows: Marsham A'Beckett M'Carthy, Herbert Evelyn Allenson, John Henry Cobb, George William Gower, Edward Ratcliffe Holborow, Hugh John M'Caw, and Frederick Agar St. John.—The Bathgate Memorial Prize, consisting of bronze medal and books, was, after a competitive examination in materia medica, awarded to Mr. Len Philip Samarasinha.

At the examinations, just concluded, for the Diploma in Public Health (Triple Qualification) the following candidates were successful:—

First Examination.—Ella Ferrier Pringle, Tha Doe, Gladys Ward, Leopold Mandel, John Lewis Owen, Gladys Richarda May Violet Williamson, and Michael Wilson Symington.
Second Examination.—Gladys Ward and Ella Elphinston.

MEDICAL SOCIETY OF LONDON.—At the annual general meeting, held on May 14th, the following Fellows were elected to office:—President: Sir StClair Thomson. Vice-Presidents: Sir Anderson Critchett, Dr. A. E. Garrod, C.M.G., F.R.S., Dr. J. H. Stowers, and Mr. H. J. Waring. Treasurer: Dr. J. Mitchell Bruce. Librarian: Dr. A. F. Voelcker. Honorary Secretaries: Mr. Hugh Lett and Dr. Edmund Cautley. Honorary Secretary for Foreign Correspondence: Dr. H. R. Spencer. Council: Mr. D. Armour, Sir Robert Armstrong-Jones, Dr. F. F. H. Bateman, Sir John Broadbent, Mr. L. V. Cargill, Mr. H. W. Carson, Dr. E. A. Cockayne, Mr. Edred M. Corner, Dr. J. Fawcett, Dr. W. J. Fenton, Dr. B. E. Goff, Mr. Owen Lankester, Mr. J. D. Malcolm, Dr. F. W. Mott, F.R.S., Mr. C. J. Ogle, Mr. G. C. Parnell, Mr. D'Arcy Power, Dr. D. Lloyd Roberts, Mr. C. Ryall, and Mr. R. Jocelyn Swan.

INSANITY IN IRELAND.—An Irish correspondent writes: The report for 1915 of the Inspectors of Lunatics in Ireland, recently issued, is remarkable in that for the first time since 1865 there has been no increase in the number of insane under care in Ireland. There has, in fact, been a decrease of 77, the total number on Jan. 1st, 1916, being 25,103. Moreover, the decrease is to some extent due to a lessened admission rate, the decrease, however, being entirely among males. There was an actual increase among females. Although this is the first actual decrease recorded for many years, the rate of increase had for the past five years been considerably retarded. Thus the average annual increase from 1904 to 1914 was 218, but from 1909 to 1914 it was only 104. In proportion to the total population there were, in 1915, 573 insane per 100,000. It is noted that in 1·32 per cent. of the total admissions to asylums during the year the war was assigned either as the principal or a contributory cause of the insanity. Moreover, this cause appeared to affect women more than men.[1] During the year there were in the district asylums two deaths from suicide, two from misadventure, and three from injuries inflicted by fellow-patients. From the notes of the inspectors on the several asylums visited it is clear that in many of them there is much room for improvement.

DONATIONS AND BEQUESTS.—The King has sent a donation of £200 to King Edward VII. Hospital, Windsor, towards the extinction of a debt of £1925, and a lady has offered to give £1000 provided the balance of the debt is subscribed before the end of May.—By will the late Miss Sarah Jane Waddell, of Bridgwater, Somerset, bequeathed £500 each to the Bridgwater Nursing Association, the Bridgwater Hospital, the Devonshire Hospital, Buxton, and £100 each to the Queen's Hospital, Birmingham, Dr. Barnardo's Homes, and the Charity Organisation Society.—The late Mr. Samuel Bayley Verney Asser, of Westwood-place, Windlesham, Surrey, has left £500 for such hospitals in the City and County of London as the executors may select.—Miss Anna Pigeon, of South Side, Clapham Common, has left £300 each to the Clapham Dispensary and the Royal Surgical Aid Society.—The late Mrs. Harriet Stock Bradley, of Leamington Spa, has bequeathed £1000 to the Midland Home for Incurables, Leamington, and part of the residue of her estate to the Walsall and District Hospital and the Leamington and Warneford Hospital.—The late Mr. William Walmsley Simpson, of Winkley, Whalley, Blackburn, has left by will £1000 to the Blackburn Infirmary and £350 to the Oswaldtwistle Nursing Association.—After certain small bequests, the residue of the estate of the late Mrs. R. M. Acock, of Croydon, valued at £10,000, has been left to Guy's Hospital, Croydon General Hospital, the Cancer Hospital, Fulham, and the Hospital for Consumption, Brompton.—The late Mr. Charles E. Godfrey, of Southsea, has left by will 1000 shares in Chas. Godfrey & Co. in trust for the Royal Portsmouth Hospital.—Mr. R. F. Bolitho has given £1500 to the West Cornwall Infirmary, Penzance, to endow a bed to the memory of his late sister, Miss Sage Ley Bolitho.—The late Mr. T. R. Butcher, of Bath, has bequeathed £8000 to the British Red Cross Society.—By the will of the late Mr. Charles James Atkinson, of Bath, the British Home for Incurables, Streatham, will receive £1000, and the Royal United Hospital, Bath, and the Mineral Water Hospital, Bath, £500 each.

[1] See also THE LANCET, May 5th, p. 694.

THE LATE DR. T. E. UNDERHILL.—We regret to record the death of Thomas Edgar Underhill, M.D., C.M. Edin., F.R.C.S. Edin., aged 62. He had practised for the last 27 years at Barnt Green in Worcestershire, having previously for four years practised at Bromsgrove, where he had succeeded the late Dr. Prosser. Dr. Underhill belonged to a well-known medical family, his father and uncle having been among the best-known practitioners in South Staffordshire, where their work and name are still continued. After taking his degree at Edinburgh in 1876, he joined his father in practice at Tipton, Staffordshire, where he remained for 10 years, holding at that time the post of surgeon to the Guest Hospital at Dudley. On moving to Bromsgrove he became medical officer to the school and surgeon to the local Volunteer Battalion of the Worcestershire Regiment, retiring with the rank of surgeon-major after 16 years' service. He also took an active part in local affairs, being vice-chairman of the School Board and bailiff of the Bromsgrove Court Leet. The activities of a large practice did not prevent him taking part in other public work. He was President of the Midland Medical Society, and latterly worked in connexion with the British Red Cross, being medical officer to the "Beaconwood" Convalescent Hospital for Wounded Soldiers. Dr. Underhill leaves a widow. Five of his sons are serving in H.M.'s Forces. He will be greatly missed by a wide circle of friends and patients.

Parliamentary Intelligence.

NOTES ON CURRENT TOPICS.

Secret Session.

AT the conclusion of questions on Thursday, May 10th, and Friday, May 11th, the House of Commons sat in secret session.

Venereal Disease Bill.

The Venereal Disease Bill has passed through report in the House of Commons and been read a third time. In the course of a short debate on the motion for the third reading, which took place on Tuesday, May 15th, Mr. HAYES FISHER (Parliamentary Secretary to the Local Government Board) repeated his statement that there was no evidence that venereal disease was on the increase in this country, but the report of the Royal Commission had thrown a very powerful searchlight on the problem, and had shown the necessity for dealing with the matter by legislation. He hoped the Bill would do something towards providing a remedy for the disease, and would gradually diminish the number of those suffering from it. Some other speeches presented views which had previously been expressed in the proceedings on second reading and in Committee. Sir WILLIAM COLLINS expressed the hope that the Bill would accomplish something useful, but he criticised some of the provisions. The third reading was agreed to without a division.

HOUSE OF COMMONS.

WEDNESDAY, MAY 9TH.

The Rum Ration.

Answering Mr. L. HASLAM, Mr. MACPHERSON (Under Secretary for War) said: Rum is issued at the front at the discretion of the General Officer Commanding on the recommendation of the medical officer, and it is not proposed to interfere with this discretion. The method of distribution must obviously depend on the circumstances of each particular occasion.

THURSDAY, MAY 10TH.

Medical Re-examinations.

Mr. MONTAGUE BARLOW asked the Under Secretary for War with regard to the Military Service (Review of Exceptions) Act whether he would give instructions that in every case where a discharged man was required to present himself for examination under the Act his papers, and in particular his full medical history, should be before the board who held the examination.—Mr. MACPHERSON wrote in reply: This is already provided for by the existing recruiting regu-

lations, and steps are being taken to remind recruiting officers of their responsibility in ensuring that this regulation is strictly adhered to.

Body Shields for Soldiers.

Mr. MACPHERSON informed Mr. SNOWDEN that the question of the provision of body shields for soldiers had been considered, but no decision had been reached.

Spotted Fever at Chisledon Camp.

Mr. SNOWDEN asked the Under Secretary for War whether there was an outbreak of spotted fever at Chisledon Camp, Swindon, and whether any deaths had taken place from this cause.—Mr. MACPHERSON replied: I am informed that since April 1st last 12 cases have occurred in this camp, and of these three have died.

MONDAY, MAY 14TH.

Prevention of Contagion from Venereal Disease.

Sir ERNEST LAMB asked the Under Secretary for War whether any steps were being taken to prevent venereal disease being communicated to men sleeping in blankets that had previously been used by persons suffering from such complaint.—Mr. MACPHERSON replied: Yes, sir. Under the regulations blankets which may have been exposed to infection are soaked in cresol solution before being washed. I have no reason to suppose that this precaution is being neglected.

Medical Attendance on Soldiers' Widows.

Major CHAPPLE asked the Pensions Minister what provision was to be made for the medical treatment of widows and orphans of sailors and soldiers during and after the war.—Mr. BARNES answered: The National Health Insurance Commissioners are now considering at my request how the medical treatment of widows and orphans of sailors and soldiers killed in the present war can be best provided. My honourable friend is doubtless aware that the whole question of medical service will be further dealt with in connexion with the proposal to establish a Ministry of Health.

Supply of Artificial Limbs.

Answering Major CHAPPLE, Mr. BARNES said: The total number of artificial limbs supplied from the beginning of the war up to the end of last month was 8805. The total public expenditure during this period on the supply and renewal of artificial limbs and other surgical appliances was £127,293.

TUESDAY, MAY 15TH.

Medical Men in Combatant Units.

Answering Mr. WATT, Mr. MACPHERSON said: Steps have been taken to withdraw medical practitioners who are officers of the fighting forces. All medical practitioners who are known to be non-commissioned officers and men are invariably offered appointments as officers in the Royal Army Medical Corps if fitted to hold His Majesty's commissions.

WEDNESDAY, MAY 16TH.

Volunteer Field Ambulances.

Sir W. COLLINS asked the Under Secretary for War whether the proposals for the formation of volunteer field ambulances which were under consideration with a view to an early settlement on April 3rd had now been completed; and what were the arrangements which had been made for an ambulance service or for regimental medical officers in connexion with the Volunteers.—Mr. MACPHERSON wrote in reply: The formation of field ambulances for Home Service on a Volunteer basis has been approved and offers of service have been invited from certain counties. If the result proves satisfactory the scheme will, I hope, be extended. The appointment of medical officers is proceeding, but it is not free from difficulty owing to the demand for medical officers for service overseas and for full-time service in this country, which has necessitated the imposing of certain restrictions as to age upon candidates for Volunteer appointments.

BOOKS, ETC., RECEIVED.

ARNOLD, EDWARD, London.
Introduction to Special School Work. By Marion F. Bridle, L.L.A. With Foreword by G. A. Auden, M.A., M.D., M.R.C.P. 3s. 6d. net.

BADGER, RICHARD G., Boston and Toronto.
The History and Practice of Psychanalysis. By Paul Bjerre, M.D. Translated by Elizabeth N. Barrow. $3 net.

BLACKWOOD, WILLIAM, AND SONS, London and Edinburgh.
The Tale of a Casualty Clearing Station. By a Royal Field Leech. 5s. net.

CRITERION PRESS, Leicester and London.
Cycling for Health and Points for Cyclists. By Frank Bowden, F.R.G.S. 1s. net.

DORAN, W., Philadelphia.
Transactions of the Southern Surgical and Gynecological Association. Vol. XXVIII. Edited by W. D. Haggard, M.D. Medical and Surgical Reports of the Episcopal Hospital Church in Philadelphia. Vol. III.

FROWDE, HENRY, AND HODDER AND STOUGHTON, London.
Treatment of Joint and Muscle Injuries. By W. Rowley Bristow, M.B., B.S. Lond., F.R.C.S., Captain, R.A.M.C. (T.). 6s. net.

HEINEMANN, W., London.
War Shock: the Psycho-Neuroses in War, Psychology and Treatment. By M. D. Eder, late temporary Captain, R.A.M.C., and M.O. in Charge of Psycho-Neurological Department, Malta. 5s. net.
Malingering. By A. Bassett Jones, late temporary Honorary Lieutenant, R.A.M.C., and Ll. J. Llewellyn, M.B. Lond., attached to 2nd Southern General Hospital. With a chapter on Malingering in Relation to the Eye, by W. M. Beaumont, Acting Ophthalmic Surgeon to the Bath War Hospital. 25s. net.

HODDER AND STOUGHTON, London.
In Mesopotamia. By Martin Swayne. 5s. net.

LAURIE, T. WERNER, LTD., London.
Reflections on Victory and a Project for the Federation of Governments. By Arthur Capel. 2s. net.
The Cameroons. By A. F. Calvert, F.C.S. 6s. net.

LEWIS, H. K., London.
Causation of Sex. By E. Rumley Dawson, L.R.C.P. Lond., M.R.C.S. Eng. Second edition. 7s. 6d. net.

LONGMANS, GREEN, AND CO., London.
Common Diseases of the Male Urethra: Being a Course of Lectures Delivered at the London Hospital. By Frank Kidd, M.B., B.C. Cantab., F.R.C.S. Eng. With Additions on Clinical Pathology of Urethritis. By Dr. Philip Panton. 5s. net.
Secretion of the Urine. By Arthur Cushny, M.A., M.D., LL.D., F.R.S. 9s. net.

MACMILLAN AND CO., London.
The New System of Gynæcology. Edited by Thomas Watts Eden, M.D., F.R.C.S.E., F.R.C.P., Temporary Major, R.A.M.C., and Cuthbert Lockyer, M.D., B.S., F.R.C.S., F.R.C.P. Three vols. £6 6s.

MURRAY, JOHN, London.
A Regimental Surgeon in War and Prison. By Captain R. V. Dolbey, M.B., M.S. Lond., F.R.C.S., R.A.M.C. 5s. net.

PRINCETOWN UNIVERSITY PRESS; HUMPHREY MILFORD, London, and OXFORD UNIVERSITY PRESS.
Physical Chemistry of Vital Phenomena for Students and Investigators in Biological and Medical Sciences. By J. F. McClendon. $2.

STANDARD ART BOOK CO., LTD., 30-32, Ludgate-hill, London.
The Roll of Honour: a Biographical Record of all Members of His Majesty's Naval and Military Forces who have Fallen in the War. By the Marquis de Ruvigny. Vol. I.

THACKER, W., AND CO., London.
Studies in Malaria. By Hugh Stott, M.B., B.S. Lond., Captain, I.M.S. 10s. 6d. net.

UNIVERSITY PRESS, Chicago.
A Chemical Sign of Life. By Shiro Tashiro, Instructor in Physiological Chemistry, University of Chicago. $1 net.

Appointments.

Successful applicants for vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, such information for gratuitous publication.*

ARNOTT, J., has been appointed Certifying Surgeon under the Factory and Workshop Acts for the Brampton District of the county of Cumberland.

WYNN, W. H., M.D. Lond., Honorary Physician to the Birmingham General Hospital.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).
When the application of a Belgian medical man would be considered the advertisers are requested to communicate with the Editor.

APPLECROSS, Ross-shire.—Medical Officer and Public Vaccinator. Salary £320 per annum.

BOOTLE BOROUGH HOSPITAL.—Junior House Surgeon. Salary £170 per annum, with board, &c.

BRISTOL ROYAL INFIRMARY.—House Physician and House Surgeon. Salary at rate of £120 per annum, with board, &c.

BURNLEY, VICTORIA HOSPITAL.—House Surgeon. Salary £160 per annum, with board, &c.

BURY ST. EDMUNDS, SUFFOLK HOSPITAL, Ampton Hall.—Resident Medical Officer. Salary £400 per annum, with board, &c.

CAPE TOWN, SOUTH AFRICAN COLLEGE.—Professors of Pharmacology, Pathology, and Bacteriology. Salary at rate of £800 per annum each.

CARDIFF, KING EDWARD VII.'S HOSPITAL.—House Surgeon for six months. Salary at rate of £175 per annum, with board, &c.

CHARING CROSS HOSPITAL, W.C.—Honorary Anæsthetist.

DERBYSHIRE COUNTY COUNCIL.—Temporary Medical Superintendent for County Sanatorium and Tuberculosis Officer. Salary £500 per annum.

DEVONPORT, ROYAL ALBERT HOSPITAL.—House Surgeon, unmarried. Salary £150 per annum, with board, &c.

EVELINA HOSPITAL FOR CHILDREN, Southwark, S.E.—House Physician for four months. Salary at rate of £160 per annum, with board, &c.

EXETER WAR HOSPITAL.—Resident Medical Officer. Salary £1 per diem, with board, &c.

FRIMLEY COTTAGE HOSPITAL, Surrey.—Assistance to help Medical Staff.

GLOUCESTERSHIRE ROYAL INFIRMARY AND EYE INSTITUTION.—Senior House Surgeon. Salary £150 per annum, with board, &c.

HOLLAND (LINCOLNSHIRE) COUNTY COUNCIL.—Temporary County Medical Officer of Health and Temporary School Medical Officer. Salary £450 per annum.

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Brompton.—House Physician for six months. Salary 30 guineas.

LABORATORIES OF PATHOLOGY AND PUBLIC HEALTH, 38, New Cavendish-street, W.—Bacteriologist.

LEEDS CITY, PUBLIC HEALTH DEPARTMENT.—Female Medical Assistant for Infant Welfare Work, to assist occasionally at Tuberculosis Dispensary. Salary £350 per annum.

LEEDS PUBLIC DISPENSARY.—Resident Medical Officer. Salary £200 per annum, with board, &c.

MANCHESTER, ANCOATS HOSPITAL.—House Physician. Salary £200 per annum, with board, &c.

MANCHESTER, BAGULEY SANATORIUM FOR TUBERCULOSIS.—First Assistant Medical Officer, unmarried. Salary £400 per annum, with board, &c.

MANCHESTER CHILDREN'S HOSPITAL, Gartside-street.—Assistant Medical Officer for the Out-patient Department. Salary £150 per annum.

MANCHESTER ROYAL EYE HOSPITAL.—House Surgeon. Salary £120 per annum, with board, &c.

NOTTINGHAM CHILDREN'S HOSPITAL.—Female House Surgeon. Salary at rate of £200 per annum, with board, &c.

QUEEN MARY'S HOSPITAL FOR THE EAST END, Stratford.—Casualty Officer.

ST. BARTHOLOMEW'S HOSPITAL.—Resident Junior Medical Officer for the Special Department for the Diagnosis and Treatment of Venereal Diseases, for three months.

ST. GEORGE'S-IN-THE-EAST TUBERCULOSIS DISPENSARY, London, E.—Temporary Medical Officer. Salary at rate of £500 per annum

ST. HELENS COUNTY BOROUGH.—Temporary Assistant Medical Officer of Health. Salary £350 per annum.

ST. PANCRAS INFIRMARY, Dartmouth Park Hill, Highgate, N.—Senior and Junior Assistant Medical Superintendents.

ST. PETER'S HOSPITAL FOR STONE, &c., Henrietta-street, Covent Garden, W.C.—Senior and Junior House Surgeons for six months. Salaries at rate of £75 per annum, with board, &c.

SALFORD COUNTY BOROUGH.—Temporary Tuberculosis Officer. Salary £400 per annum.

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SHEFFIELD ROYAL HOSPITAL.—Casualty Officer. Salary £130 per annum. Assistant House Surgeon. Salary £120 per annum, with board, &c.

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WIGAN, ROYAL ALBERT EDWARD INFIRMARY AND DISPENSARY.—Medical Officer to take charge of Out-patient Department. Salary £250 per annum, with board, &c.

THE Chief Inspector of Factories, Home Office, London, S.W., gives notice of vacancies for Certifying Surgeons under the Factory and Workshop Acts at Enniscorthy (Wexford) and at Redruth (Cornwall).

Births, Marriages, and Deaths.

BIRTHS.

CARMICHAEL.—On May 10th, at Arboll-crescent, Edinburgh, the wife of Lieutenant Norman Scott Carmichael, R.A.M.C., of a daughter.

COOK.—On May 12th, to Evelyn Russell and Joseph Basil Cook, M.D., D.P.H., R.A.M.C., of the Infirmary, Isleworth—a daughter.

FAIRLIE.—On May 12th, at Mecklenburgh square, W.C., the wife of William M. Fairlie, M.D., of a daughter.

MCDOUALL.—On May 8th, at Red Bank, Hornsey-lane, Highgate, N., the wife of J. C. S. McDouall, West African Medical Staff, of a daughter.

MAIDMENT.—On May 8th, at Harleston, Norfolk, the wife of Frederick N. H. Maidment, M.B., F.R.C.S. Edin., of a son.

POULTON.—On May 7th, at Wykeham Cottage, Woldingham, Surrey, to Elfrida, wife of E. P. Poulton, M.D., F.R.C.P.—a son.

SETH-SMITH.—On May 11th, at Tower House, Bildeston, Suffolk, the wife of Douglas Seth Smith, M.R.C.S., L.R.C.P.—a daughter.

MARRIAGES.

FRASER—CHARD.—On May 15th, at Chichester, by the Rev. J. B. Sherrin, assisted by the Prebendary Rickard, vicar of the parish, Major Alexander Edward Gordon Fraser, R.A.M.C., only son of the late Donald Alexander Fraser, M.D., of Totnes, Devon, to Dorothy Louise Josephine, elder daughter of the late R. A. S. Chard, of Magnolia, West Tarring, Worthing.

HOPKINS—MILES.—On May 12th, at St. Mary's, Prittlewell, Lionel Gordon Hopkins, M.D., to Dorothy Bessie Miles.

KEYNES—DARWIN.—On May 12th, at St. Bartolph's, Cambridge, Captain G. L. Keynes, M.A., R.A.M.C., to Margaret Elizabeth, younger daughter of the late Professor Sir George Darwin, K.C.B.

DEATHS.

FAIRWEATHER.—On April 29th, at Forest Hill, Beaumont, Jersey, Surgeon-General James Fairweather, M.D., F.R.C.S., Indian Medical Service (retired), aged 89.

FOWLER.—On May 3rd, at Essington House, Hereford, John Bucknill Fowler, M.R.C.S. Eng., and late of Kobe, Japan, aged 55.

RAE.—On April 15th, reported missing, believed drowned, James Rae, M.A., M.D., Lieutenant, R.A.M.C., who was on board the torpedoed troopship *Arcadian*.

RYLEY.—On May 4th, Charles Ryley, Major, R.A.M.C.

UNDERHILL.—On May 8th, at Dunedin, Barntgreen, Worcestershire, T. Edgar Underhill, M.D., F.R.C.S. Edin., F.R.S. Edin., aged 62.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

TOBACCO.

To the Editor of THE LANCET.

SIR,—As there is at the present time much interest in the subject of tobacco, in consequence of increased taxation, the following statistics of its production may be useful to your readers. In the United States, in 1901, the acreage under tobacco was 1,039,199, the number of pounds produced 818,953,373, and the value in dollars 58,283,108. Ten years later the following were the figures: 1,013,000 acres, 905,109,000 lb., $85,210,000. The Americans estimate that the total production by tobacco-growing countries is roughly 2053 million pounds, of which it is claimed practically 1100 million pounds are produced by the United States and the remainder as follows: Cuba, 46 millions; Mexico, 35 millions; Santo Domingo, 33 millions; Argentina, 31 millions; Brazil, 75 millions; Hungary, 160 millions; France, 37 millions; Germany, 64 millions; Russia, 201 millions; Turkey, 50 millions, but including Asiatic Turkey 100 millions; Java, 84 millions; Sumatra, 45 millions; and Japan, 92 millions.

An English estimate is that the total production amounts to 2,756,000,000 lb., produced chiefly by the following countries: United States, 1,113,400,000 lb.; India, 450,000,000 lb.; Russia, 200,000,000 lb.; Austria-Hungary, 184,000,000 lb.; Netherlands' East Indies, 128,600,000 lb.; Japan, 93,000,000 lb. The value of the tobacco imported by the United Kingdom is placed at about £6,360,000, before the war, but the value of the tobacco exported was £2,600,000. The import for 1915 is placed at £8,550,000, and the export at £3,790,000. The consumption of tobacco in France, according to French figures, is 39,500,000 kilogrammes (about 86,900,000 lb.) In 1911 the Union of South Africa produced 14,961,199 lb. In Canada in 1910 the production was 17,604,917 lb. from 19,194 acres. In Ireland from 1887 to 1904 experiments were carried on in County Meath and in 1900 and 1901 in several other counties. In 1904 20 acres were planted. The results proved satisfactory, and tobacco is now grown in Meath, Louth, Wexford, King's County, Kilkenny, and Cork, about 150 acres altogether. In England a small quantity was grown a few years ago in south-west Norfolk. Sixty years ago 20 per cent. would have had to be added to the weights given for adulteration, such as dock, rhubarb, coltsfoot, chicory, endive, oak, elm, and even maize and sunflower leaves. These are bare facts, and I do not propose to draw any deductions from them, but they undoubtedly have a medical bearing as well as a commercial interest.

I am, Sir, yours faithfully,

May 8th, 1917. PETUN.

HERB-GROWING IN THE WEST OF ENGLAND.

A LARGELY attended public meeting was recently held at Totnes (Devon) in connexion with the National Herb-Growing Association. The organiser for Devon (Mr. C. Walkey) reported that the society was founded in 1915, and had now over 2000 members. Collections of herbs had been arranged over an area of 250,000 acres in Somerset, including all Exmoor. Drying sheds were to be erected at Torquay and Taunton. The society would require large quantities of foxglove seeds and dandelions, as well as of belladonna roots. The association had received one order for £2000 worth of medicinal herbs, and it was estimated that the trade in these plants was worth not less than £200,000 a year.

NORTHERN TERRITORIES OF THE GOLD COAST.

ACCORDING to the report on the Northern Territories for 1915, recently received at the Colonial Office, the health of the European population, consisting almost exclusively of Government officials, was fairly good, and there was no death. The health of the native officials was also fairly good. The prevalent disease was malaria.

The Census completed in 1911 gave an estimated population of 361,806 to the Northern Territories, with a computed area of 31,100 square miles—an average of 11·6 persons to the square mile. In spite of the heavy infant mortality it is considered that the population at the present day is greatly in excess of that shown by the Census, as there is reason to believe that in the North-Eastern Province not more than two-thirds of the inhabitants were enumerated. No serious outbreak in epidemic disease occurred during the year. Anthrax was reported to have broken out at the village of Zongoiri in the Bawku district, where eight natives died, but the medical officer who visited the village found that it had not spread, and that there were no further cases of infection. Leprosy is not on the increase, and, while uncommon in the Southern and North-Western Provinces, is of more frequent occurrence in the North-Eastern Provinces. The natives look upon it as "a visitation of Allah," but say that it shows no signs of spreading and are generally averse to compulsory isolation. The medical officer at Salaga states that the

death-rate in that district for the year was 33·25 per 1000. It is considered that much of the disease among the native population is caused by the poor water supply, to improve which efforts are now being made.

There are four Government hospitals in the Southern Province, three in the North Western Province, and four in the North-Eastern Province. The attendance of out-patients at these hospitals increases yearly, but the natives object to the restrictions placed on them as in-patients, and only those suffering from the worst complaints can be persuaded to remain in hospital for any length of time. 2226 out-patients and 115 in-patients were treated at the Tamale Hospital during the year, 972 and 14 at Salaga, 473 and 22 at Bole, 217 and 8 at Lorha, 589 and 22 at Gambaga, and 349 and nil at Navarro respectively.

THE USE OF MAIZE IN BREAD.

To the Editor of THE LANCET.

SIR,—My experience among my patients is that the mixed flours agree well if the addition of barley or oatmeal is made, but if maize is mixed, within a few days consumers complain of colic, sometimes of a severe character. I have suggested to patients who have consulted me in these circumstances that they discontinue eating the particular flour they are consuming and purchase either wholemeal or a flour which they are certain only contains barley or oats as an addition—not maize. In every case where this has been done the pain has ceased. This result of eating flour and maize was to be expected, and is well known to anyone who has resided long in the East, where the adulteration of wheaten flour with maize is common. As it is necessary for every worker to keep himself or herself as fit as possible, would it not be advisable to have each sack branded with the particular kind of admixture, so that all purchasers could buy the one which agreed with them best?

I am, Sir, yours faithfully,

May 7th, 1917. ANGLO-INDIAN.

MEDALS FOR SERVICE IN THE ARMY AND NAVY.

LONG lists of honours call repeated attention to medals and decorations. A few years ago a guide to the Department of Coins and Medals in the British Museum was printed by order of the trustees, and was intended for those who while taking an intelligent interest in the subject were not inclined to devote much time or attention to any particular class of medals or coins. The following excerpt is interesting:—

> The exhibition of English medals is completed by a selection of military and naval decorations. The custom of presenting these decorations is of very recent date, and it may be said only to have been established during the reign of Queen Victoria. As already mentioned, it is supposed that some of the Armada medals were intended for decorations, as they still bear chains for suspension. During the Civil War it is also supposed that the numerous royalist and parliamentarian badges were intended to be worn by the followers of both sides; and we have distinct evidence that during the Commonwealth decorations were ordered both for the Navy and the Army. During the whole of the eighteenth century decorations were only occasionally granted, and then in most cases singly; and the famous victories of the Nile and Trafalgar received no official recognition. It is very doubtful whether the Culloden medal was ever granted, as there is no evidence of an order to that effect; and besides it is excessively rare, only a few specimens in gold, silver, and copper being known. During the Peninsular War some special decorations were issued to the officers of both services, but the East India Company acted in a much more liberal spirit and awarded medals to men of all ranks who were in its service for several of the more important campaigns. The first medal for general distribution issued by authority in this century was that given for the battle of Waterloo. It was conferred by order of the Prince Regent upon every officer, non-commissioned officer, and private present at that battle, but no general acknowledgment was made for all the brilliant engagements in the Peninsular War till 1847, when a medal was issued "for military services" between the years 1793–1814. At the same time a corresponding medal "for naval services" was ordered to be struck for all naval engagements. Since that date medals have been awarded for every campaign, as well as others for "distinguished service," for "meritorious service," for "long service," special acts of bravery, &c.

Three useful books may be mentioned which afford further information:—"War Medals and their History," by W. Augustus Stewart (London: Stanley Paul and Co. Price 12*s.* 6*d.*); "Naval and Military Medals," by Lieut.-Commander Taprell Dorling (London: Geo. Philip and Sons. Price 2*s.*); and "British and Foreign Orders, War Medals and Decorations," by A. A. Payne, L.R.C.P., M.R.C.S. (Published in 1911. Price 31*s.* 6*d.*). Gale and Polden's books published at Aldershot, on medals, buttons, and ribbons, are well known.

A. B. C.—Appointments to venereal treatment centres are made by the authorities of the hospitals to which the clinics are affiliated but it is probable that the arrangements will be modified after the first year of working or at the conclusion of the war, when some of these appointments, especially in the provinces, may be directly in the gift of the Local Government Board. All appointments are now part-time, but some may become whole-time ones, and if the Ministry of Health comes into being there will probably be regular organisation.

Medical Diary for the ensuing Week.

SOCIETIES.

ROYAL SOCIETY OF MEDICINE, 1, Wimpole-street, W.

MEETINGS OF SECTIONS.

Monday, May 21st.

ODONTOLOGY (Hon. Secretaries—F. R. Smyth, F. N. Doubleday, J. Howard Mummery): at 5.30 P.M., at the Royal College of Surgeons, Lincoln's Inn Fields.

Annual General Meeting.—Election of Officers and Council for 1917–1918.

Exhibition of Specimens, &c.:

Professor Arthur Keith, F.R.S., and Mr. J. F. Colyer will demonstrate specimens recently added to the Museum.

Tuesday, May 22nd.

MEDICINE (Hon. Secretaries—Charles R. Box, W. Cecil Bosanquet): at 5.30 P.M.

Annual General Meeting.—Election of Officers and Council for 1917–1918.

Thursday, May 24th.

BALNEOLOGY AND CLIMATOLOGY (Hon. Secretaries—Chas. W. Buckley, J. Campbell McClure): at 5.30 P.M.

Annual General Meeting.—Election of Officers and Council for 1917–1918.

Report of Council.

Friday, May 25th.

STUDY OF DISEASE IN CHILDREN (Hon. Secretaries—A. S. Blundell Bankart, E. A. Cockayne, C. P. Lapage): at 4.30 P.M.

Annual General Meeting.—Election of Officers and Council for 1917–1918.

Cases will be shown.

EPIDEMIOLOGY AND STATE MEDICINE (Hon. Secretaries—William Butler, Major Greenwood, jun.): at 8.30 P.M.

Annual General Meeting.—Election of Officers and Council for 1917–1918.

Paper:

Miss Muriel Robertson: Recent Researches into the Etiology of Typhus.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

POST-GRADUATE COLLEGE, West London Hospital, Hammersmith-road, W.

MONDAY.—2 P.M., Medical and Surgical Clinics. X Rays. Mr. Gray: Operations. Mr. B. Harman: Diseases of the Eye. Dr. Simson: Diseases of Women.

TUESDAY.—2 P.M., Medical and Surgical Clinics. X Rays. Mr. Baldwin: Operations. Dr. Banks Davis: Diseases of the Throat, Nose, and Ear. Dr. Pernet: Diseases of the Skin.

WEDNESDAY.—10 A.M., Dr. Saunders: Diseases of Children. Dr. Banks Davis: Operations of the Throat, Nose, and Ear. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. Pardoe: Operations.

THURSDAY.—2 P.M., Medical and Surgical Clinics. X Rays. Mr. Gray: Operations. Mr. B. Harman: Diseases of the Eye.

FRIDAY.—10 A.M., Dr. Simson: Gynæcological Operations. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. Baldwin: Operations. Dr. Banks Davis: Diseases of the Throat, Nose, and Ear. Dr. Pernet: Diseases of the Skin.

SATURDAY.—10 A.M., Dr. Saunders: Diseases of Children. Dr. Banks Davis: Operations of the Throat, Nose, and Ear. Mr. B. Harman: Eye Operations. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. Pardoe: Operations.

ROYAL INSTITUTION OF GREAT BRITAIN, Albemarle-street, Piccadilly, W.

THURSDAY.—3 P.M., Prof. W. Bateson: The Chromosome Theory of Heredity and the Alternatives. (Lecture II.)

FRIDAY.—5.30 P.M., Mr. J. Barcroft: Breathlessness.

ROYAL INSTITUTE OF PUBLIC HEALTH, Lecture Hall of the Institute, 37, Russell-square, W.C. 1.

Course of Lectures and Discussions on Public Health Problems under War and After-war Conditions:—

WEDNESDAY.—4 P.M., Lecture VI.:—Sir C. Arthur Pearson, Bart.: The Re-education and Training of Disabled Combatants. Followed by a discussion.

METEOROLOGICAL READINGS.

(*Taken daily at 8.30 a.m. by Steward's Instruments.*)

THE LANCET Office, May 16th, 1917.

Date.	Rainfall.	Solar Radio in Vacuo.	Maximum Temp. Shade.	Min. Tem.	Wet Bulb.	Dry Bulb.	Remarks.
May 10	...	101	65	46	51	54	Cloudy
,, 11	...	120	77	52	58	65	Cloudy
,, 12	...	116	73	56	58	65	Cloudy
,, 13	...	117	81	56	57	63	Fine
,, 14	...	116	78	60	57	63	Cloudy
,, 15	...	105	68	57	56	60	Overcast
,, 16	...	81	54	47	46	49	Overcast

Other information which we have been accustomed to give in these "Readings" is withheld for the period of the war.

The following journals, magazines, &c. have been received:—Revista Clinica, Veterinary Review, Journal of State Medicine, Revue de Chirurgie, Medical Review, Midland Medical Journal, Revista de Medicina, Annaes Paulistas de Medicina e Cirurgia, Boletin de Cirurgia.

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IT is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITOR," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention should be given to this notice.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this office.

Lectures, original articles, and reports should be written on one side of the paper only, *and when accompanied by blocks it is requested that the name of the author, and if possible of the article, should be written on the blocks to facilitate identification.*

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers—not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

Letters relating to the publication, sale, and advertising departments of THE LANCET should be addressed "To the Manager."

We cannot undertake to return MSS. not used.

Offices: 423, STRAND, LONDON, W.C. 2.

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ALTERATION IN THE PRICE OF "THE LANCET."

INCREASED war expenses and cost of production necessitate an increase of the price of THE LANCET. Commencing with the new year, the price was raised to 8*d*. The rates of subscription remain as revised in October.

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